दक्षिण मध्य रेलवे

South Central Railway

MULTIPLE CHOICE

QUESTION BANK

SIGNAL

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दक्षिण मध्य रेलवे South Central Railway

सिगनल व दूरसंचार प्रशिक्षण संस्थान मौला-अली/ सिकंदराबाद

Signal and Telecommunication Training Centre, Moula-Ali / Secunderabad

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ST-01 : GENERAL

1. Classification of Railway servants Categories under HOER are_____ ( )
   a. 3 b. 2 c. 4 d. 1

2. In HOER an employee in confidential capacity comes under ( )
   a. Excluded b. Intensive c. Continuous d. Essential Intermittent

3. An employee in essential intermittent category is ( )
   a. ASM b. ESM. c. WTM d. Gateman

4. In continuous category an employee working hours is ( )
   a. 48hrs/week b. 54hrs/week c. 32hrs/week d. 60hrs/week

5. Running staff comes under which category? ( )
   a. Excluded b. Intensive c. Continuous d. Essential Intermittent

6. Max. working hours/week for an employee in essential intermittent category. ( )
   a. 48hrs/week b. 54hrs/week c. 72hrs/week d. 42hrs/week

7. Attenders in waiting rooms comes under which category ( )
   a. Excluded b. intensive c. essential intermittent d. Intensive

8. An employee works 42 hours per week and with 30 consecutive hours of rest comes under ( )
   a. Excluded b. Intensive c. Essential intermittent d. Continuous

9. SF-1 (Standard Form) is issued to an employee ( )
   a. To place under suspension b. revocation of suspension
   c. both a & b d. None

10. SF-8 is for in DAR is ( )
    a. Issuing a charge sheet in case of common proceedings
    b. For appointment of an enquiry officer
    c. For appointment of a presenting officer.
    d. Both b & c.

11. SF-5 is proposed to take up an employee for imposition of ( )
    a. Major penalty b. Minor penalty c. Revocation d. Suspension.

12. Who can avail paternity leave in Indian Railways? ( )
    a. Male employee b. Women employee
    c. both a & b d. trainee employee

13. Censure is_____penalty. ( )
    a. Major b. Minor c. both a & b d. none

14. SF-11 is_____penalty. ( )
    a. Minor b. Major c. both a & b d. none

15. _____no. of privilege passes/year for non gazetted employee having more than 5 years of service ( )
    a. 1 b. 2 c. 3 d. 4

16. Maternity leave is granted for_____days. ( )
    a. 180 days b. 90 days c. 270 days d. 360 days

17. No. of stipendiary leaves for an apprentice in IR. ( )
    a. 8 b. 10. c. 16 d. 15

18. No of casual leaves for an railway employee of open line in a year. ( )
    a. 8 b. 10 c. 11 d. 15.

19. Hindi divas is on ( )
    a. 22 August b. 14 September c. 12 June d. 14 February

20. How many languages is incorporated in 8th schedule? ( )
    a. 8 b. 12 c. 16 d. 22

21. Which region is Non-speaking Hindi ( )
    a. A region b. B region c. C region d. both a & b

22. No's of PTO's can be availed by a Railway employee in a year is ( )
    a. 3 b. 4 c. 2 d. 6

23. A Railway employee maximum how many LAP's can be accumulated in his service ( )
    a. 50 b. 200 c. 250 d. 300

24. Child care leave (CCL) is granted for how many years? ( )
    a. 1 year b. 2 years c. 3 years d. 4 years

25. Per year how many LAP leaves is credited into employee account? ( )
    a. 15 days b. 20 days c. 25 days d. 30 days

26. Per year how many LHAP leaves is credited into employee account? ( )
    a. 15 days b. 20 days c. 25 days d. 30 days

27. Duty pass is issued in the form of ( )
    a. metal pass b. card pass c. check pass d. all

28. What are the night duty hours ( )
    a. 10 PM-6AM b.9 PM-5AM c. 11PM-6AM d. 12PM-6AM

29. Time limit for submission of claim of travelling allowance (TA) is___days succeeding the date of completion of journey ( )
    a. 30 days b. 60 days c. 90 days d. 120 days

30. Who is the competent authority to approve 3rd chance to ward / widow for appointment on compassionate grounds ( )
    a. GM b. AGM c. PCPO D. DRM

A N S W E R S K E Y

1	2	3	4	5	6	7	8	9	10
c	a	d	a	c	c	c	b	a	c
11	12	13	14	15	16	17	18	19	20
a	a	b	a	c	a	c	b	b	d
21	22	23	24	25	26	27	28	29	30
c	b	d	b	d	b	d	a	b	a

ST-03a : MEASURING INSTRUMENTS & PORTABLE HAND TOOLS

1) _____test can be performed with megger ( )
   a. Earth Fault b. Open circuit c. Short circuit d. All

2) Current can be measured directly without disconnecting the circuit with _____meter ( )
   a. Voltmeter b. Ammeter c. Clip-on-meter d. Megger

3) Voltmeter is to be connected in_____to the circuit. ( )
   a. Series b. Parallel c. Series-parallel d. none

4) Ammeter is to be connected in_____to the circuit. ( )
   a. Series b. Parallel c. Series-parallel d. none

5) Insulation resistance of signaling cable should not be less than____per KM. ( )
   a. 5 MΩ b. 10 MΩ c. 2 MΩ d. 10 Ω

6) Earth leakage detector can be used for_____ ( )
   a. ON line meggering b. OFF line meggering
   c. both a, b d. None

7) Clip on meter is used for measuring_____in the circuit. ( )
   a. current without disconnection of links b. voltage
   c. resistance d. None

8) ELD measures cable_____ ( )
   a. voltage b. current c. resistance d. Insulation leakage

9) Earth tester measures_____ ( )
   a. voltage b. earth resistance
   c. cable resistance d. Insulation leakage

10) Signaling cables will be measured with_____DC megger. ( )
   a. 500v b. 100v c. 200v d. 110v

11) Quad cable will be measured with_____DC megger. ( )
   a. 500v b. 100v c. 200v d. 110v

12) Internal resistance of the Ammeter is____ ( )
   a. Low b. High c. Infinity d. zero

13) Internal resistance of voltmeter is_____ ( )
   a. zero b. Low c. High d. Infinity

14) For measuring attenuation loss in Quad cable_____instrument is used ( )
   a. TMS kit b. Cross talk measuring set
   c. Megger d. OTDR

15) _____instrument is used to check continuity of CAT cable ( )

a. **TMS kit** b. LAN tester

c. Megger d. OTDR

16) _____meter is used to measure power loss in OFC ( )

a. **Optical power meter** b. LAN tester

c. Megger d. OTDR

17) For measuring attenuation loss in OFC cable____instrument is used ( )

a. TMS kit b. Cross talk measuring set

c. Megger **d. OTDR**

18) To Increase the range of volt meter, resistance to be added in____ ( )

a. Series b. Parallel

c. Shunt d. Series – Parallel

19) To Increase the range of Ammeter, resistance to be added in____ ( )

a. Series b. Parallel

c. Series – Parallel d. None

20) Relay contact resistance is measured with_____meter ( )

a. Multi meter b. Earth Tester

c. Megger d. Micro Ohm meter

21) Micro Ohm Meter will have_____No. of probes ( )

a. 1 b. 2 c. 3 d. 4

22) For working of ELD_____supply has to be connected to the main terminal ( )

a. 24v DC b. 110v DC

c. 110v AC d. 24v AC

23) Resistance can be measured with_____ ( )

a. Earth Tester b. Megger

c. Micro Ohm meter d. All

24) Internal source is compulsory for_____meter ( )

a. Analog Ammeter b. Analog Volt meter

c. Ohm meter d. None

25) What happens to the circuit when volt meter is connected in series ( )

a. Fuse Blows b. Nothing will happen

c. Current becomes zero d. Voltage becomes zero

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
d	c	b	a	a	c	a	d	b	a
11	12	13	14	15	16	17	18	19	20
b	a	c	a	b	a	d	a	b	d
21	22	23	24	25					
d	c	d	c	c					

ST-04 : POWER EQUIPMENTS, CELLS, BATTERY & IPS

1) Inverter gives_____ ( )
(a) AC output (b) DC output
(c) Impedance matching (d) None

2) The specific gravity of charged cell is___ ( )
(a) 1180 (b) 1190 (c) 1240 (d) 1220

3) In____mode charging, O/P of charger is slightly more than the cell voltage. ( )
(a) Initial (b Boost (c) Float (d) trickle

4) Maximum permissible load on 200AH cell is_____ ( )
(a) 20A (b) 12A (c) 10A (d) 24A

5) Trickle charging is given to cells which are in_____condition. ( )
(a) discharged (b) charged (c) idle (d) dead

6) Maximum permissible charging current for 200 AH battery is ( )
(a) 10 A (b) 20 A (c) 2 A (d) No maximum

7) End point voltage of the lead acid cell is_____ ( )
(a) 1.85 V (b) 1.9V (c) 2.0V (d) 2.2V

8) In Boost charging, terminal voltage of cell is set to_____volt/cell ( )
(a) 2.2V (b) 2.3V (c) 2.4V (d) 2.7V

9) In float charging, terminal voltage of cell is set to_____volt/cell ( )
(a) 2.15V (b) 2.0V (c) 2.4V (d) 2.7V

10) In initial charging terminal voltage of cell is set to_____volt/cell ( )
(a) 2.25 V (b) 2.3V (c) 2.4V (d) 2.7V

11) Output of SMR is_____ ( )
(a) 110v AC (b) 110v DC (c) 230vAC (d) 230v DC

12) Input of SMR is_____ ( )
(a) 110v AC (b) 110v DC (c) 230vAC (d) 230v DC

13) Inverter converts _____ ( )
(a) AC to AC (b) AC to DC (c) DC to AC (d) DC to DC

14) DC to DC converter converts ___ ( )
(a) AC to AC (b) AC to DC (c) DC to AC (d) DC to DC

15) Indication that appears when SMR switches from Boost mode to Float mode is ( )
(a) system shut down (b) stop DG set
(c) call S & T staff (d) emergency start DG set

16) Electrolyte level should be_____above the plate level ( )
(a) 12mm -15mm (b) 6 mm – 8 mm
(c) up to brim (d) Just above the plates

17) In IPS system inverters are configured with_____standby ( )
(a) cold (b) warm (c) hot (d) none

18) In IPS system TFRs are fed through _____ ( )
(a) DC to DC converters (b) Inverters
(c) SMRs (d) CVT

19) Capacity of cell is measured in ( )
(a) AC (b) AH (c) DC (d) None

20) Specific gravity of charged cell is _____ ( )
(a) 1200-1220 (b) 1180-1190 (c) 1280 -1300 (d) None

21) Specific gravity of discharged cell is _____ ( )
(a) 1200 (b) 1180 (c) 1280 (d) None

22) Specific gravity is measured with _____ ( )
(a) Voltmeter (b) Megger (c) Hydrometer (d) None

23) Voltage of charged cell is _____ ( )
(a) 2.1 V (b) 1.85 V (c) 1.2 V (d) None

24) Voltage of discharged cells is _____ ( )
(a) 2.1 (b) 1.85 V (c) 2.2 V (d) None

25) Resistance of earth value connected to IPS shall not exceed ( )
(a) 10 Ohms (b) 1 Ohm (c) zero Ohms (d) None

26) Electrolyte solution in a secondary LA cell is ( )
(a) Sulphuric Acid
(b) Sulphuric Acid and Battery grade Distilled water
(c) Battery grade Distilled water
(d) None of the above

27) Purpose of IPS is to ( )
(a) Integrate supply required for signaling (b) avoid blank signal
(c) achieve redundancy in power supply for signaling (d) All the above

28) At 70**%** DOD of Battery, The output of _____ is cut off ( )
(a) Inverter (b) DC-DC converters
(c) Status Monitoring Panel (d) CVT

29) In IPS when Battery voltage falls below 98V DC, DC supply is cut off to____ ( )
(a) ACDP (b) DCDP
(c) a & b (d) None of the above

30) Capacity of cell depends upon ( )
(a) No. of plates inside the cell (b) Thickness of plates inside the cell
(c) Area of plates inside the cells (d) All the above

31) In IPS, Signal lamp circuit is normally fed by output of ( )
(a) Inverter (b) CVT for signals
(c) CVT for tracks (d) none of the above

32) Stop DG set audio-visual alarm generates whenever FRBC/SMR change over from ( )
(a) Float mode to Boost mode (b) Boost mode to Float mode
(c) Both the above (d) None of the above

33) Output of CVT is_____ ( )
(a) 110 V AC (b) 230 V AC (c) 110 V DC (d) None

34) Internal resistance of a secondary cell shall not be more than ( )
a) 2 Ohms b) 0.5 Ohms c) 20 Ohms d) None

35) Codal life of a secondary cell is ( )
a) 2 years b) 4 years c) 8 years d) None

36) Efficiency of a secondary cell can be expressed in ( )
a) Current b) Volt c) Watt Hour d) AH or V or WH efficiency

37) Earth resistance permitted for IPS is ( )
a) 2 Ohms b) < 1 Ohms c) 20 Ohms d) None

38) Which of the following is NOT associated with IPS ( )
a) CSU b) LVDS c) SMP d) SSD

39) Inverters in IPS are connected in ( )
a) Warm standby mode b) Hot standby mode
c) Both d) None

40) Auto/Manual change over switch in IPS shall normally be placed in_ Position( )
a) Inverter 1 b) Inverter 2 c) CVT d) None

41) Current is absorbed in the cell from the charging circuit, and the direction of the current in the cell is_____ ( )
a) From positive plate to negative plate b) From negative plate to positive plate
c) Can be any direction d) None

42) When a cell is on load, the current is given out by the cell ( )
a) From positive plate to negative plate b) From negative plate to positive plate
c) Can be any direction d) None

43) Direction of current within the cell when the cell is discharging is ( )
a) From positive plate to negative plate b) From negative plate to positive plate
c) Can be any direction d) None

44) Battery charger shall be suitable for satisfactory operation with the Input Voltage range of ( )
a) 220V to 270V AC b) 230 V AC
c) 160V to 270V AC d) 110 V AC

45) In IRS 86-2000 chargers, the float voltage can be adjustable between ( )

a) 2.2 V to 2.7 V per cell b) 2.12 to 2.3 V per cell

c) 2.2 V per cell d) 2.4 V per cell

46) The relay internal load of station is 16.5A how many DC-DC converter modules be needed for it in the IPS ( )

a) 2Nos@ 5A b) 3nos @ 5A c) 4nos @ 10A d) 4nos @ 5A

47) _____indication appears on status monitoring panel when battery voltage is discharged to 50% . ( )

a) System shutdown b) Start Generator c) Emergency start DG d) None

48) Capacity of Cell depends on _____ ( )

a) Size of Cell b) Thickness of plates

c) Type of cell d) All

49) Specification for integrated power supply (IPS) is ( )

a) RDSO/SPN/165/2023 b) RDSO/SPN/187/2012

c) RDSO/SPN/99/2023 d) RDSO/SPN/182/2012

50) The size of power cable with 10 KVA at shall be ( )

a) 2 x 100 sqmm Aluminium b) 2 x 70 sqmm Aluminium

c) 2 x 150 sqmm Aluminium d) 2 x 120 sqmm Aluminium

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	d	c	a	c	b	a	c	a	d
11	12	13	14	15	16	17	18	19	20
b	c	c	d	b	a	c	d	b	a
21	22	23	24	25	26	27	28	29	30
b	c	a	b	b	b	d	a	c	d
31	32	33	34	35	36	37	38	39	40
a	b	b	a	b	d	b	d	b	d
41	42	43	44	45	46	47	48	49	50
a	a	b	c	b	c	b	d	a	b

ST-05 : BASIC ELECTRICITY AND MAGNETISM

1) Resultant resistance will increase when resistors are connected in ( )
(a) Series (b) parallel (c) series and parallel (d) all

2) Resultant resistance will decrease when resistors are connected in ( )
(a) Series (b) parallel (c) series and parallel (d) all

3) Condensers of same capacity are connected in parallel, the resultant value ( )
(a) becomes double (b) become half
(c) will not change (d) become zero

4) Condensers of same capacity are connected in series, the resultant value ( )
(a) becomes double (b) become half
(c) will not change (d) become zero

5) The unit for capacitance is_____ ( )
(a) Volts (b) Newton (c) Coulomb (d) Farads

6) 50 Ω & 50 Ω resistors are connected in series the resultant Resistance is ( )
(a) 75 Ω (b) 50 Ω (c) 100 Ω (d) 25 Ω

7) 50 Ω & 50 Ω resistors are connected in parallel the resultant Resistance is ( )
(a) 50 Ω (b) 100 Ω (c) 25 Ω (d) 150 Ω

8) To measure current in a circuit, Ammeter is connected in_____ ( )
(a) Parallel (b) Series (c) Series & Parallel (d) None

9) To measure voltage in a circuit, Voltmeter is connected in_____ ( )
(a) Parallel (b) Series (c) Series & Parallel (d) None

10) To measure current in a circuit, circuit need not be disconnected if _____ is used ( )
(a) Ammeter (b) Multimeter (c) Clip-on meter (d) None

11) _____converts AC to DC. ( )
(a) Oscillator (b) Filter (c) Rectifier (d) Inverter

12) In bridge rectifier_____no. of diodes are used. ( )
(a) 1 (b) 2 (c) 3 (d) 4

13) _____will not change in Transformer ( )
(a) Voltage (b) Current (c) Resistance (d) Frequency

14) In step up transformer the voltage on primary side is_____the voltage on secondary side ( )
(a) More than (b) Less than (c) Equal to (d) None

15) In step down transformer the voltage on primary side is_____the voltage on secondary side ( )
(a) More than (b) Less than (c) Equal to (d) None

16) In 1:1 transformer the voltage on primary side is _____the voltage on secondary side ( )
(a) More than (b) Less than (c) Equal to (d) None

17) Ohm's Law is_____ ( )
(a) V = I R (b) I = V / R (c) R = V / I (d) All

18) In an electrical circuit the Power =_____ ( )
(a) V x I (b) I^2 R (c) V^2 / R (d) All

19) In an electrical circuit at constant resistance, if Voltage is increased, Current ( )
(a) decreases (b) increases (c) remains constant (d) None

20) In an electrical circuit at constant resistance, if Voltage is decreased, Current ( )
(a) decreases (b) increases (c) remains constant (d) None

21) In an electrical circuit at constant Voltage, if Resistance is decreased, Current( )
(a) decreases (b) increases (c) remains constant (d) None

22) In an electrical circuit at constant Voltage, if Resistance is increased, Current ( )
(a) decreases (b) increases (c) remains constant (d) None

23) The unit for Power is ( )
(a) Newton (b) Watts (c) Joules (d) Hertz

24) The unit for frequency is ( )
(a) Newton (b) Watts (c) Joules (d) Hertz

25) Transformer works on_____principle ( )
(a) Mutual induction (b) Electrostatic induction
(c) Self induction (d) None

26) In a transformer there will be_____between AC voltages of primary coil and secondary coil ( )
(a) decrease in frequency (b) increase in frequency
(c) no change in frequency (d) None

27) In every magnet_____number of poles present ( )
(a) 3 (b) 2 (c) 4 (d) 6

28) When North pole of a magnet brought nearer to South pole of other magnet ( )
(a) Repels (b) Attracts
(c) Neither attracts nor repels (d) None

29) When South pole of a magnet brought nearer to South pole of other magnet ( )
(a) Repels (b) Attracts
(c) Neither attracts nor repels (d) None

30) An electrical generator converts ( )
(a) Electrical energy into Mechanical energy
(b) Mechanical energy into Electrical energy
(c) Electrical energy into Sound energy
(d) Sound energy into Electrical energy

31) In a DC generator_____occurs ( )
(a) copper losses (b) Magnetic losses
(c) Mechanical losses (d) All the above

32) According to Faraday's Laws of Electromagnetic induction, whenever a conductor cuts magnetic flux_____is produced ( )
(a) induced e.m.f. (b) Heat (c) Light (d) None

33) Electrical energy may be converted into_____energy ( )
(a) Mechanical (b) Sound (c) Chemical (d) All

34) In a stabilizer, if input voltage increases within the range the output voltage ( )
(a) increases (b) decreases (c) remains constant (d) none

35) In a stabilizer, if input voltage decreases within the range the output voltage ( )
(a) increases (b) decreases (c) remains constant (d) none

36) What will be the current in a QN1 relay of coil resistance 400 ohms is operated with 24 V DC ( )
(a) 60 mA (b) 50 mA (c) 40 mA (d) 30 Ma

37) What will be the current in a QNA1 relay of coil resistance 208 ohms is operated with 24 V DC ( )
(a) 80 mA (b) 90 mA (c) 100 mA (d) 115 mA

38) _____is used to protect electrical/electronic equipments from high currents ( )
(a) Fuse (b) Resistor (c) Inductor (d) None

39) The Power factor is ( )
(a) the ratio of true(working) power to apparent power
(b) the ratio of apparent power to true power
(c) product of true power and apparent power
(d) None

40) Capacitive reactance X_c = ( )
(a) 2πfc (b) 1 / 2πfc (c) 2πfL (d) 1 / 2πfL

41) Inductive reactance X_L = ( )
(a) 2πfc (b) 1 / 2πfc (c) 2πfL (d) 1 / 2πfL

42) Capacity of the transformer is measured in_____ ( )
(a) Volts (b) Amperes (c) VA (d) hertz

43) _____shall be given to transformer ( )
a) DC Voltage only (b) AC Voltage only
(c) Either AC or DC voltages (d) None

44) Turns ratio of the transformer = ( )
(a) $N_1 / N_2 = V_1 / V_2 = I_2 / I_1$ (b) $N_1 / N_2 = V_2 / V_1 = I_2 / I_1$
(c) $N_2 / N_1 = V_1 / V_2 = I_2 / I_1$ (d) $N_1 / N_2 = V_1 / V_2 = I_1 / I_2$

45) The transformer will not work for DC voltages due to ( )
(a) constant voltage (b) constant current
(c) constant resistance (d) constant flux

46) CVT / AVR works in_____region ( )
(a) active (b) magnetic saturation (c) passive (d) cut-off

47) CVT means ( )
(a) Constant voltage transformer (b) current voltage transformer
(c) Continuous variable transformer (d) None

48) In capacitor filter, as the load current increases then ripple will_____ ( )
(a) increase (b) decrease (c) same (d) nil

49) In a bridge rectifier, how many diodes will conduct in a half cycle ( )
(a) 1 diode (b) 2 diodes (c) 3 diodes (d) 4 diodes

50) Resistance x Capacitance = ( )
(a) Charging time of capacitor (b) Discharging time of capacitor
(c) Both a & b (d) None

51) For 230 V AC, 50 Hertz the time period of each half cycle is_____ ( )
(a) 20 m sec (b) 30 m sec (c) 10 m sec (d) 40 m sec

52) Forward voltage drop of a silicon diode is_____volts ( )
(a) 3.7 (b) 1.7 (c) 2.7 (d) 0.7

53) Zener diode gives_____voltage ( )
(a) regulated (b) varying voltage (c) both a & b (d) None

54) Zener diode works in_____region ( )
a) active (b) passive (c) cut-off (d) reverse breakdown

55) For inductive load, power factor is ( )

(a) leading (b) lagging (c) 0.6 (d) 0.7

56) For capacitive load, power factor is ( )

(a) leading (b) lagging (c) 0.6 (d) 0.7

57) _____converts DC voltage to AC voltage ( )

(a) Rectifier (b) Inverter (c) Amplifier (d) Transformer

58) An Opto coupler converts_____ ( )

(a) Electrical energy to light energy & vice versa (b) Electrical energy to sound

(c) Electrical energy to mechanical energy (d) Electrical energy to chemical energy

59) The main application of the Opto coupler is to_____ ( )

(a) Isolate two circuits (b) combine two circuits

(c) Combine three circuits (d) combine four circuits

60) Capacitor stores_____energy ( )

(a) mechanical (b) electrical (c) light (d) chemical

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	b	a	b	d	c	c	b	a	c
11	12	13	14	15	16	17	18	19	20
c	d	d	b	a	c	d	d	b	a
21	22	23	24	25	26	27	28	29	30
b	a	b	d	a	c	b	b	a	b
31	32	33	34	35	36	37	38	39	40
d	a	d	c	c	a	d	a	a	b
41	42	43	44	45	46	47	48	49	50
c	c	b	a	d	b	a	a	b	c
51	52	53	54	55	56	57	58	59	60
c	d	a	d	b	a	b	a	a	b

ST-06 : SAFETY IN TRAIN OPERATION, S O D & D M

1) Maximum height above rail level of any part of signal gear provided between rails of track is___ ( )

(a) 64 mm (b) 2135 mm (c) 1676 mm (d) none

2) In all new yards, we must follow ( )

(a) Existing works (b) New works (c) both (d) none

3) Maximum height of signaling gear above rail level for a width of 1600 mm in BG inside of the track_____ ( )

(a) 64 mm (b) 2135 mm (c) 6250 mm (d) none

4) As per Revised Schedule of dimensions, New works includes ( )

(a) Additions of new lines / structure (b) gauge conversion

(c) Doubling (d) all

5) Minimum horizontal distance of a Point machine in BG from CLOT ( )

(a) 64 mm (b) 2135 mm (c) 1600 mm (d) 2360 mm

6) Red aspect of signal should be at a height of_____from above the rail level. ( )

(a) 3355 mm (b) 3650 mm (c) 3555 mm (d) 4650 mm

7) Minimum horizontal distance of a Location Box in BG from CLOT ( )

(a) 1905 mm (b) 2135 mm (c) 1600 mm (d) 2360 mm

8) Minimum horizontal distance of a TLJB in BG from CLOT ( )

(a) 1905 mm (b) 2135 mm (c) 1600 mm (d) 2360 mm

9) The nearest part of the signal post from the centre of track for a signal with horizontal route ( )

(a) 2.135m (b) 2.84 m (c) 2.36m (d) 2.8m

10) Minimum clearance between toe of open switch and stock rail in new works ( )

(a) 95 mm (b) 115 mm (c) 112 mm (d) 118 mm

11) The minimum clearance required from center of track to the signal post is___( )

(a) 1600 mm (b) 2135 mm (c) 1905 mm (d) 2360 mm

12) When point is under disconnection, stop signal governing the point_____ ( )

(a) need not kept at ON (b) need kept at ON

(c) optional (d) not compulsory

13) The distance from nearest wire transmission to the CLOT in BG is_ ( )

(a) 1.9 m (b) 2.5 m (c) 3 m (d) 6m

14) The minimum distance of lifting barrier from the centre line of nearest track shall be ( )

(a) 4 m (b) 3.5 m (c) 6 m (d) 3 m

15) Minimum horizontal distance of a Gate lodge in BG from CLOT ( )

(a) 4 m (b) 5 m (c) 6 m (d) 3 m

16) Minimum horizontal distance of a Gate lodge in BG from edge of road ( )

(a) 4 m (b) 5 m (c) 6 m (d) 8 m

17) Minimum horizontal distance of a Height guage from CLOT ( )

(a) 4 m (b) 5 m (c) 6 m (d) 8 m

18) Normal implantation of OHE mast (single OHE) from CLOT ( )

(a) 2.5 m (b) 2.8 m (c) 3 m (d) 2.36 m

19) Normal implantation of OHE mast (more than one OHE) from CLOT ( )

(a) 2.5 m (b) 2.8 m (c) 3 m (d) 2.36 m

20) Min. horizontal distance of any telegraph post measured from the centre of & at right angles to the nearest track for New works or alterations to existing works ( )

(a) The height of the post plus 2135 mm
(b) The height of the post plus 2360 mm
(c) The height of the post plus 3135mm
(d) The height of the post plus 2560 mm

21) Max. gradient in station yards for new works ( )

(a) 1 in 100 (b) 1 in 260 (c) 1 in 400 (d) 1 in 1200

22) Maintainer shall advise the station master on duty in writing on_____and obtain the signature before Group-B work is started. ( )

(a) written memo (b) Consent memo
(c) Disconnection memo (d) none

23) For replacing Signal LED unit_____Memo is required. ( )

(a) written memo (b) Consent memo
(c) Disconnection memo (d) none

24) For testing of point gauge_____Memo is required for. ( )

(a) written memo (b) Consent memo

(c) Disconnection memo (d) none

25) Point adjustment comes under_____works. ( )

(a) written memo (b) Consent memo

(c) Disconnection memo (d) none

26) _____Memo is required for opening of block instrument for visual inspection ( )

(a) written memo (b) Disconnection memo

(c) Consent memo (d) none

27) EKT maintenance comes under_____works ( )

(a) Group-A (b) Group-B

(c) Group-C (d) Disconnection memo

28) Adjustment of Regulating resistance comes under ( )

(a) Group-A (b) Group-B

(c) Group-C (d) Disconnection memo

29) Divisional disaster management plan is signed by ( )

(a) GM (b) AGM (c) CSO (d) DRM/ADRM

30) Divisional disaster management plan is reviewed and updated in_____ ( )

(a) January (b) June (c) July (d) December

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	b	a	d	c	b	d	a	b	c
11	12	13	14	15	16	17	18	19	20
d	b	c	b	c	c	d	b	c	b
21	22	23	24	25	26	27	28	29	30
d	b	c	b	c	c	c	c	d	a

ST-07 : COMPUTER APPRECIATION

1. Which of the following is known as the brain of a computer? ( )
   (A) Monitor (B) CPU (C) Keyboard (D) ROM

2. Modem is used for? ( )
   (A) Supply DC power (B) DC to DC conversion
   (C) AC to DC conversion (D) Modulation and demodulation

3. The acronym for MAC is? ( )
   (A) Media Access configuration (B) Main Access control
   (C) Media Access control (D) Main access configuration

4. What is the full form of IP? ( )
   (A) Internet protocol (B) Immediate protocol
   (C) Internet processing (D) Immediate processing

5. Which of the following is an output device? ( )
   (A) Scanner (B) Joystick (C) Speaker (D) Touchpad

6. RAM stands for? ( )
   (A) Random Aligned Memory (B) Random Access Memory
   (C) Read Access Memory (D) None of these

7. Data in RAM are ( )
   (A) Volatile in nature (B) Non-volatile in nature
   (C) Both of these (D) None of these

8. BIOS stand for? ( )
   (A) Basic instruction output system (B) Basic input output system
   (C) Basic interface output system (D) All of these

9. RAM in its commercial forms is available as: ( )
   (A) SIMM (B) DIMM (C) Both of these (D) None of these

10. Which of the following requires refreshing for retaining the data? ( )
    (A) SRAM (B) Virtual Memory (C) Flash Memory (D) DRAM

11. Refresh rate of a monitor is measured in: ( )
    (A) Hz (B) Meter (C) Ampere (D) Volts

12. Which of the following is used between CPU and RAM to speed up the processing power of a CPU? ( )
    (A) Virtual Memory (B) Cache Memory (C) DRAM (D) Flash Memory

13. Which of the following is lowest in memory hierarchy? ( )
    (A) Registers (B) Secondary Memory (C) Cache Memory (D) RAM

14. CRT stands for? ( )
    (A) Character Ray Tube (B) Cathode Ray Tube
    (C) Color Resonant Technique (D) Color Ray Tube

15. Which of the following is a GUI device? ( )
    (A) Keyboard (B) OMR (C) Mouse (D) All

16. LCD stands for? ( )
    (A) Liquid crystal Display (B) Laser Crystal Display
    (C) Light Crystal Display (D) None of these

17. The types of printers, in which the printing head contacts with the paper in printing process, are called as: ( )
    (A) Non-impact printer (B) Impact printer (C) Laser printer (D) None

18. Which of the following is a type of optical media? ( )
    (A) FDD (B) HDD (C) CD (D) Magnetic Tape

19. A wireless technology built in electronic gadgets used for exchanging data over short distances is? ( )
    (A) Wifi (B) Bluetooth (C) Modem (D) USB

20. DVD stands for? ( )
    (A) Digital video display (B) Digital Versatile Disk
    (C) Digital video disk (D) None of these

21. Which language was used as first generation language? ( )
    (A) Machine language (B) Assembly Language
    (C) High Level Language (D) C

22. Which of the following is responsible for all types of calculations in a computer ( )
    (A) ALU (B) Control Unit (C) Bus Unit (D) Registers

23. The memory used in network routers for switching purpose: ( )
    (A) DRAM memory (B) Flash Memory (C) CAM memory (D) None

24. Technology used to provide internet by transmitting data over wires of telephone network is? ( )
    Transmitter (B) Diodes (C) Transistor (D) DSL

25. Modulation is the process of ( )
    (A) Sending a file from one computer to another
    (B) Converting analog signals to digital signals
    (C) Converting digital signals to analog signals
    (D) None of these

26. Demodulation is the process of ( )
(A) Sending a file from one computer to another
(B) Converting analog signals to digital signals
(C) Converting digital signals to analog signals
(D) None of these

27. Which of following is used in Random Access Memory? ( )
(A) Conductor (B) Semi Conductor
(C) Vacuum Tubes (D) Transistor

28. Which part of the computer controls the machine cycle? ( )
(A) Control unit (B) ALU (C) Memory (D) Bus unit

29. Which among following is secondary storage device? ( )
(A) RAM (B) Transistor (C) Hard Disk (D) Semi Conductor

30. Internal memory in a CPU is nothing but: ( )
(A) System Bus (B) A set of ALU (C) Microprocessor (D) A set of registers

31. In which type of computer, data are presented as discrete signals? ( )
(A) Analog Computer (B) Digital Computer
(C) Data Computer (D) All of these

32. An electronic path that sends signals from one part of computer to another is ( )
(A) Logic Gate (B) Bus (C) Modem (D) Hard disk

33. Memory in a PC is addressed by ( )
(A) Control Bus (B) Data bus (C) Address bus (D) None

34. Which of the following is an input devic ( )
(A) Monitor (B) Keyboard (C) USB (D) Speaker

35. Which of the following is used for sending digital data over a phone line ( )
(A) Modem (B) USB (C) Scanner (D) Printer

36. Which of the following is an input device? ( )
(A) MICR (B) VDU (C) Printer (D) Plotter

37. In computer AC to DC conversion is done by? ( )
(A) DVD (B) Adapter (C) RAM (D) SMPS

38. Which one of the following is an output device? ( )
(A) Printer (B) USB (C) Track pad (D) File Manager

39. Name of the screen that recognizes touch input is : ( )
(A) Recog Screen (B) Point Screen (C) Touch Screen (D) Android Screen

40. Which one of these stores more data than a DVD ? ( )
(A) CD ROM (B) Floppy (C) Blue Ray Disk (D) Red Ray Disk

41. Eight Bits make up a ( )
(A) Byte (B) Mega byte (C) Kilo byte (D) None

42. Which one of these also known as read/write memory ? ( )
(A) ROM (B) RAM (C) DVD (D) Hard Disk

43. The printed output from a computer is called ( )
(A) Copy (B) Hard Copy (C) Soft Copy (D) Paper

44. Which of the following is not an operating system ? ( )
(A) DOS (B) ORACLE (C) LINUX (D) WINDOWS

45. The process of starting the computer and loading of operating system programs for execution is known as ( )
(A) Initializing (B) Loading (C) Booting (D) Retrieving

46. Who is the father of computer? ( )
(A) Harman Hollerith (B) Ada Byron
(C) Blaise Pascal (D) Charles Bobbage

47 A desktop computer is also known as ( )
(A) PC (B) Laptop (C) Mainframe (D) Palmtop

48. Which is the most powerful computer? ( )
(A) Mini computer (B) Micro computer
(C) Mainframe computer (D) Super computer

49. Which one of the following is not computer hardware? ( )
(A) Mouse (B) Monitor (C) Printer (D) Antivirus

50. The first computer was programmed using ( )
(A) Assembly language (B) Machine language
(C) Source code (D) Object code

A N S W E R S K E Y

1	2	3	4	5	6	7	8	9	10
B	D	B	A	C	B	A	B	C	D
11	12	13	14	15	16	17	18	19	20
A	B	B	B	C	A	B	C	B	B
21	22	23	24	25	26	27	28	29	30
A	A	C	D	C	B	B	A	C	D
31	32	33	34	35	36	37	38	39	40
B	B	C	B	A	A	D	A	C	C
41	42	43	44	45	46	47	48	49	50
A	B	B	B	C	D	A	D	D	B

ST-10 : TELEPHONE INSTRUMENTS

1) In telephony, transmission of speech current on copper cable is termed as ( )
   a. line telephony b. impedance matched telephony
   c. wired telephony d. None

2) The basic requirement of a telephone is transmitter Receiver and ( )
   a. Signaling b. Switching c. Controlling d. None

3) Copper wires are used in telephony due to ( )
   a. Low cost b. Easily available
   c. Less attenuation and distortion d. Good resale value

4) A good transmission line has ( )
   a. low insulation resistance b. less amount of current carrying capacity
   c. small conductor diameter d. None of the above

5) Main distribution frame is ( )
   a. connecting exchange output to field cable
   b. a testing place for physical line parameters
   c. used for providing protective devices
   d. all the above

6) Card frame is meant for ( )
   a. housing the cards b. protection devices
   c. connecting only control cards d. none of the above

7) Power supply panel is responsible for ( )
   a. power supply to peripheral cards b. power supply to control cards
   c. ringing power supply to subscribers d. both a and b

8) Two subscriber connected in the same exchange is called as ( )
   a. trunk switching b. group switching
   c. local switching d. none of the above

9) SPC stands for ( )
   a. stored program control b. strong program control
   c. storage program control d. simple program control

10) Loop signaling is extended from ( )
   a. subscriber to subscriber b. exchange to subscriber
   c. subscriber to exchange d. exchange to exchange

11) Push button telephone means ( )
   a. dial pad for dialing digits. b. a push button to disconnect the line
   c. a button provided to start the phone d. a phone with special privileges

12) A phone type connected between boss an secretary is a ( )
a. main and extension type b. only one phone shared between them
c. ordinary pair of two phones d. none of the above

13) CLIP stands for ( )
a. caller line identity permission b. call incoming line permitted
c. caller line identity presentation d. caller inbound line promise

14) Cordless phone works on ( )
a. radio transmission b. both a and c
c. wired transmission d. none of the above

15) In on hook condition, line is ( )
a. connected to ringer circuit b. totally disconnected from exchange
c. connected to dialer circuit d. none of the above

16) In off hook condition, line is connected to the ( )
a. dialer circuit b. amplifier circuit c. ringer circuit d. none

17) DTMF stands for ( )
a. Double tone multiplexed frequency b. dual tone multiple frequencies
c. dual tone multi frequency d. dual tone mixed frequencies

18) Dial lock means ( )
a. no dialing allowed b. only incoming call allowed
c. digits cannot be dialed d. no incoming & outgoing from the phone

19) IP phones are connected on ( )
a. internet LAN switch b. directly to the exchange subscriber interface
c. copper pair to the exchange d. none of the above

20) P phones are often called as_____phones ( )
a. SIP b. digital c. plus feature d. caller id

21) A Transmitter converts sound energy into ( )
a. Light energy b. Electrical energy
c. Mechanical energy d. None

22) A Receiver converts electrical energy into ( )
a. Light energy b. Sound energy
c. Mechanical energy d. None

23) In magneto telephone most commonly used ringing device is ( )
a. Piezo electric buzzer b. A.C. Bell c. D.C. Bell d. None

24) In all telephone instrument except in magneto telephone, ringing device is ( )
a. Piezo electric buzzer b. A.C. BELL c. D.C. BELL d. None

25) Maximum subscribers possible in magneto telephone is ( )
a. 1 b. 2 c. 4 d. Any number of subscribers

26) Maximum subscribers possible in selective calling telephone is. ( )
a. 10 b.11 c. 12 d. 14

27) The working voltage of selective calling telephone is ( )
a. 12 V D.C b. 24 V D.C c. 48 V D.C d. 6 V D.C

28) The minimum and maximum voltage for selective calling telephone is ( )
a. 10 to 14 volts DC b. 10.8 to 14.4 volts DC
c. 12.5 to 16.5 volts DC d. 8.5 to 12.5 volts DC

29) The ideal current in Selective calling telephone is ( )
a. 20 mA b. 40 mA c. 60 Ma d. 80 mA

30) The ringing and speech current in selective calling telephone is ( )
a. 20 mA to 40 mA b. 40 mA to 60 mA
c. 15 mA to 30 mA d. 60 mA to 80 mA

31) If buzzer fails in selective calling telephone what is the fault ( )
a. No ring b. No speech c. No ring & no speech d. None

32) If 12 V power supply fails in selective calling telephone what is the fault ( )
a. no ring b. telephone is dead
c. no speech d. none

33) If transmitter fails in any telephone instrument than what is fault ( )
a. No incoming speech b. No outgoing speech
c. No ringing d. none

34) If receiver fails in any telephone instrument than what is fault ( )
a. No incoming speech b. No outgoing speech
c. No ringing d. None

35) what is the full form EPBT ( )
a. Electronic polarity button telephone b. Electronic push button telephone
c. Electronic popup button telephone d. none

36) Working voltage of EPBT is ( )
a. -24 V D.C b. -48 V D.C c. +48 V D.C d. +12 V D.C

37) EPBT telephone gets feed from ( )
a. STM b. Exchange c. Raw supply d. None

38) In EPBT cradle off condition current is ( )
a. 0 mA b. 10 mA c. 15 mA d. 20 mA

39) An EPBT cradle on condition current is ( )
a. 20 mA b. 30 mA c. 40 mA d. 60 mA

40) Ringer IC used in GCEL 501 telephone set is 8 pins IC no ( )
a. LS 1240 b. LS 1260 c. LS 1562 d. RS 5263

41) To supply proper polarity to the telephone, circuit connected to across line is ( )

a. Metal oxide varistor b. Bridge rectifier

c. Zener diode d. Fuse

42) Make and receive VoIP phone calls from your PC, I phone or Android smart phone are called ( )

a. Soft phone b. DKT phone c. EPBT phone d. None

43) A two line telephone having a base unit and a hand set .is called ( )

a. Hand free telephone b. Cordless telephone

c. Cellular telephone d. none

44) 01 row and 01 column frequency is selected for pressing_____digit on EPBT ( )

a. 1 digit b. 2 digit c. 3 digit d. 4 digit

45) Two Subscribers of two different Exchanges are connected through ( )

a. Local exchange b. Transit exchange

c. Trunk exchange d. None

46) At MDF primary protection is provided by ( )

a. SPD b. MOVR c. IPM d. NONE

47) The place where both outdoor and indoor cables are terminated is ( )

a. MDF b. IDF c. DDF d. None

48) VOIP means ( )

a. Voice over internet protocol b. Voice over internet phone

c. Voice operated instant phone d. None

49) IP phone is used ( )

a. Voice b. Data c. Video d. All

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	a	c	a	d	a	d	c	a	c
11	12	13	14	15	16	17	18	19	20
a	a	c	a	a	a	c	c	a	a
21	22	23	24	25	26	27	28	29	30
b	b	b	a	c	b	a	b	a	b
31	32	33	34	35	36	37	38	39	40
a	b	b	a	b	b	b	a	b	a
41	42	43	44	45	46	47	48	49	50
b	a	b	a	c	c	a	a	d	

ST-15 : BASIC CONCEPTS OF SIGNALLING

1) Position light type CLS shunt signal at ON position displays_____ ( )
   (a) Two lights horizontally (b) Two lights inclined at 45 degrees to the left.
   (c) Two lights vertically (d) No lights

2) Minimum Visibility of main line starter in MACLS is ( )
   (a) 400 mtrs (b) 300 mtrs (c) 200 mtrs (d) None

3) Minimum distance required between Distant & Home signal in MACLS is___( )
   a. 1400 mtrs b. 1000 mtrs c. 1200 mtrs d. None

4) Block Section Limit Board Provided on_____and demarcates_____ ( )
   a. Single line & Block section b. Double line & Station limits
   c. Single line & Station section d. Double line & Block section

5) 'P' marker is provided on_____ ( )
   a. All distant signals b. All distant signals in CLS area
   c. All permissive signals d. None

6) A gate cum distant signal will have_____number of aspects. ( )
   a. 2 b. 3 c. 4 d. none

7) Signal overlap in multiple aspect signaling is ( )
   a.180 mtrs b. 120 mtrs c. 400 mtrs d. 1000 mtrs

8) Block overlap in multiple aspect signaling is ( )
   a.180 mtrs b. 120 mtrs c. 400 mtrs d. 1000 mtrs

9) Gate stop signal in MACLS is provided at_____mtrs from the LC gate. ( )
   a. 180 mtrs b. 400 mtrs c. 120 mtrs d. None

10) Speed of trains in Std-I (R) interlocking is_____ ( )
   a. 50 kmph b. 110 kmph c. 140 kmph d. 160 kmph

11) Speed of trains in Std-II (R) interlocking is_____ ( )
   a. 50 kmph b. 110 kmph c. 140 kmph d. 160 kmph

12) Speed of trains in Std-III(R) interlocking is_____ ( )
   a. 50 kmph b. 110 kmph c. 140 kmph d. 160 kmph

13) Speed of trains in Std-IV (R) interlocking is_____ ( )
   a.50 kmph b. 120 kmph c. 140 kmph d. 160 kmph

14) Calling on signal is provided_____ ( )
   a. Below the distant signal b. below the home signal
   c. Below the last stop signal d. Below the shunt signal

15) The normal aspect of inner distant signal is ( )
a. Red b. Yellow c. Double yellow d. Green

16) The reception signal provided below main home signal ( )
a. Co-acting signal b. Repeating signal
c. Calling on signal d. None

17) D/signal in double distant territory displays proceed aspect then it indicates ( )
a. Run through on main line b. Run through on loop line
c Trains going to be received on main line d. a & c

18) Catch siding shall be provided where the gradient steeper than 1:80 is falling towards_____ ( )
(a) Station section (b) station siding line
(c) block section (d) All

19) The Goods warning board shall be provided at 1 Km in rear of___signal ( )
a) Station home b) Gate home c) IB signal d) none of above

20) Gate signal under absolute block system shall be provided with____marker. ( )
a) 'G' b) 'AG' c) 'PG' d) Illuminated 'G'

21) When the shunt signal and calling on signal are provided below stop signal then Placement of signals from top_____ ( )
a) Calling on signal and then shunt signal b) shunt signal and then calling on signal
c) must not be provided d) a or b

22) A shunt signal can be provided below_____ ( )
a) FSS b) Starters c) Advance starter d) b & c

23) Calling-on signal can be provided below_____ ( )
a) FSS b) Starters c) Advance starter d) a & b

24) R marker is provided for_____signal ( )
a) Repeating b) Co-acting c) Routing home d) second distant

25) ____signal is provided if the visibility of signal is obstructed due to ROB ( )
a) Repeating b) Routing c) Co-acting d) none

26) _____marker is provided for the sidings taken off from block section ( )
a) P b) S c) R d) C

27) C marker is painted with_____ ( )
a) Letter C painted in white on black circular disc
b) Letter C painted in black on white circular disc

c) Letter C painted in black on yellow circular disc
d) Letter C painted in yellow on black circular disc

28) P marker is painted with_____ ( )
a) Letter P painted in white on black circular disc
b) Letter P painted in yellow on black circular disc
c) Letter P painted in black on yellow circular disc
d) Letter P painted in black on white circular disc

29) S marker board is painted with_____ ( )
a) Letter S painted in white on black circular disc
b) Letter S painted in yellow on black circular disc
c) Letter S painted in black on yellow circular disc
d) Letter S painted in black on white circular disc

30) G marker board is painted with_____ ( )
a) Letter G painted in black on yellow circular disc
b) Letter G painted in yellow on black circular disc
c) Letter G painted in black on white circular disc
d) Letter G painted in white on black circular disc

31) Second distant signal post is painted with_____ ( )
a) alternate black and yellow bands b) alternate yellow and white bands
c) alternate black and white bands d) Silver white

32) Inner distant signal post is painted with_____ ( )
a) alternate black and yellow bands b) alternate yellow and white bands
c) alternate black and white bands d) Silver white

33) Signal warning board indicates to the driver that he is approaching a_____( )
a) Permissive signal b) Stop signal
c) Goods siding line d) 2nd distant signal

34) Signal warning board need not be provided in_____territory ( )
a) Double distant signal b) Single distant signal
c) Auto signaling d) none

35) Signal warning board is provided at a distance of 1.4 km from_____ ( )
a) Double distant signal b) Single distant signal
c) Stop signal d) Routing home

36) In single Distant signal territory, the distant signal will display attention aspect for a train_____ ( )
a) admitted on loop line b) admitted on main line
c) run through via loop line d) all

37) In single Distant signal territory, the distant signal will display proceed aspect for a train_____ ( )
a) admitted on loop line b) admitted on main line
c) run through via loop line d) run through via main line

38) The normal aspect of ASS is_____aspect ( )
a) caution b) proceed c) attention d) none

39) Semi automatic stop signal is provided with_____ ( )
a) Illuminated A marker b) Illuminated AG marker
c) Illuminated S marker d) none

40) ASS interlocked with points and LC gate is provided with illuminated --- marker( )
a) A b) AG c) A and AG d) none

41) Semi automatic stop signal will work as_____ ( )
a) automatic stop signal b) manual stop signal
c) a and b d) none

42) Semi automatic stop signal is operated by_____knob/lever ( )
a) queen b) king c) commander d) none

43) Authority to pass Automatic stop signal at ON position is_____ ( )
a) 2 min by day,1 min by night b) 1 min by day,1 min by night
c) 1 min by day,2 min by night d) 2 min by day,2 min by night

44) Automatic stop signal can be_____aspect ( )
a) 2 only b) 3 only c) 4 only d) 3 or 4

45) Aspect of ASS will depend upon_____ ( )
a) Aspect of signal ahead b) Condition of track ckt ahead
c) position of train ahead d) all

46) 3 aspect ASS will display__ aspect when 1 signaling section and overlap is clear( )
a) ON b) Caution c) Proceed d) Attention

47) 3 aspect ASS will display __ aspect when 2 signaling section and overlap is clear( )
a) Proceed b) Attention c) Caution d) ON

48) 4 aspect ASS will display __ aspect when 1 signaling section and overlap is clear( )
a) Caution b) Attention c) Proceed d) ON

49) 4 aspect ASS will display__ aspect when 2 signaling section and overlap is clear( )
a) Caution b) Attention c) Proceed d) ON

50) 4 aspect ASS will display __ aspect when 3 signaling section and overlap is clear( )
a) Caution b) Attention c) Proceed d) ON

51) 3 aspect ASS will display caution aspect when_____ ( )
a) 1 signaling section & overlap is clear b) 2 signaling sections & overlap is clear
c) 3 signaling sections & overlap is clear d) none

52) 3 aspect ASS will display proceed aspect when_____ ( )
a) 1 signaling section & overlap is clear b) 2 signaling sections & overlap is clear
c) 3 signaling sections & overlap is clear d) none

53) 4 aspect ASS will display caution aspect when_____ ( )
a) 1 signaling section & overlap is clear b) 2 signaling sections & overlap is clear
c) 3 signaling sections & overlap is clear d) none

54) 4 aspect ASS will display Attention aspect when_____ ( )
a) 1 signaling section & overlap is clear b) 2 signaling sections & overlap is clear
c) 3 signaling sections & overlap is clear d) none

55) 4 aspect ASS will display proceed aspect when_____ ( )
a) 1 signaling section & overlap is clear b) 2 signaling sections & overlap is clear
c) 3 signaling sections & overlap is clear d) none

56) Automatic signaling system can be provided on_____ ( )
a) S/L b) D/L c) Quadruple line d) all

57) Direction of traffic must be established for working of trains on____ system ( )
a) RE S/L automatic b) RE D/L automatic
c) Non-RE S/L automatic d) a and c

58) Direction of traffic need not be established for working of trains on __ system ( )
a) RE S/L automatic b) RE D/L automatic
c) Non-RE S/L automatic d) a and c

59) Automatic signaling system ( )
a) Reduces the headway between trains b) Increases the section capacity
c) Safety depends upon the alertness of driver d) all

60) Minimum Overlap distance beyond automatic stop signal is ( )
a) 120 mt b) 180 mt c) 400 mt d) none

61) Relation between number of aspects of signal and overlap is ( )
a) No relation b) Directly proportional c) Inversely proportional d) none

62) Automatic stop signal provided with illuminated “A” and “AG” marker will display illuminated “A” marker when ( )
a) Points are detected b) Closed position of LC is detected
c) a and b d) none

63) Automatic stop signal provided with illuminated “A” and “AG” marker will display illuminated “AG” marker when ( )
a) Points are detected b) LC gate is defective
c) a and b d) none

64) Automatic stop signal provided with illuminated “A” & “AG” marker can display( )
a) either “A” or “AG” marker b) both markers at a time
c) question is vague d) none

65) Automatic stop signal working either as fully automatic signal or manual signal is provided with_____marker ( )
a) Illuminated “A” b) Illuminated “M” c) Illuminated “A” & “M” d) none

66) Braking distance will depend upon ( )
a) Speed of the train b) Velocity of wind c) Brake power availability d) all

67) Braking distance will depend upon ( )
a) Gradient b) Rollability of wheels c) State of rails (wet/dry) d) all

68) Cross bars on signal unit indicates ( )
a) signal not in use b) signal will work during day time only
c) signal will work during night time only d) defective signal

69) Gate signals in automatic section is provided with ( )
a) “G” marker b) “A” marker c) “G” marker & illuminated “A” marker d) a and b

70) On Indian railways there are_____systems of train working ( )
a) 4 b) 5 c) 6 d) 7

71) Absolute block working system consists of_classes of station ( )
a) 2 b) 3 c) 4 d) 6

72) Portion of track situated between outermost signals of the station is called as ( )
a) block limits b) station limits c) shunting limits d) Clear standing room limit

73) Point and trap indicators are ( )
a) Signals b) Not signals c) fitted to and work with points d) none

74) Entry of trains into block section is controlled by ( )
a) Home signal b) Advance starter
c) Shunt signal d) Calling-On signal

75) Intermediate block signal is substitute of class_____station ( )
a) A b) B c) C d) D

76) Terminal stations is also called as_____station ( )
a) Class A b) Class B c) Class C d) Special class

77) Approved special instructions are prescribed and approved by ( )
a) CSTE b) COM c) CRS d) AGM

78) Adequate distance is the distance required for ( )
a) Ensuring safety b) Stabling of vehicles
c) Shunting of vehicles d) none

79) Permission given by block station in advance to block station in rear for train to leave is called as ( )
a) Line block b) Line clear c) Block back d) Block forward

80) As per SEM part -1,correction slip no 18 calling initiation time is_____sec ( )
a) 60 b) 90 c) 120 d) 240

81) As per SEM part -1, correction slip no 18 calling on signal below starter can be initiated ( )
a) Immediately after berthing track is occupied
b) 60 sec after berthing track is occupied
c) 120 sec after berthing track is occupied
d) Immediately without berthing track is occupied

82) Calling on signal will not detect points in the_____ ( )
a) Route b) Isolation c) overlap d) none

83) Movement of trains into auto signaling section is controlled by_____signal ( )
a) Calling on b) Shunt c) permissive d) Stop

84) Automatic signaling arrangement facilitates to_____line capacity ( )
a) Hamper b) Increase c) Reduce d) none

85) Once the signal has been taken OFF, it must not be possible to alter the points unless the_____has been put back to ON position. ( )
a) Point b) Signal c) Lock bar d) none

86) It shall not be possible to take OFF at the same time, any two fixed signals which can lead to_____movements ( )
a) Conflicting b) Parallel c) Flexible d) To and fro

87) _____signal is a Pre-warning signal ( )
a) Shunt b) Calling-on c) Distant d) none

88) Second distant signal is provided at a distance of_____km from stop signal. ( )
a) 1 b) 1.2 c) 1.4 d) 2

89) Advantages of Color light signal is ( )
a) Day and night aspects are same b) Signals are placed at driver's eye level
c) Long range of operation d) all

90) Proceed and be prepared to stop at next stop signal is indicated by_____aspect of signal ( )
a) ON b) Caution c) Attention d) proceed

91) Proceed and be prepared to pass next stop signal at restricted speed is indicated by_____aspect of signal ( )
a) ON b) Caution c) Attention d) proceed

92) The Distant signal shall display only_____aspect where “Distant” and “Inner Distant” signals are provided ( )
a) Attention or Proceed b) Caution only c) Proceed only d) none

93) Intermediate starter signal is provided between ( )
a) starter and home b) starter and routing home
c) starter and advanced starter d) loop line starter and main line starter

94) _____is provided at stations where Uninterrupted shunting operations is required in both directions (to and fro) ( )
a) Position light type shunt signal b) Calling on
c) Routing starter d) Shunting permitted indicator

95) BSLB is provided to distinguish the limit of ( )
a) station limits b) block section c) station section d) none

96) Block overlap in class C station provided color light signal is ( )
a) 400 mt b) 180 mt c) 120 mt d) none

97) Classification of LC gate is made after conducting level crossing census once in( )
a) 2 years b) 3 years c) 4 years d) 5 years

98) LC gate census will be done by supervisors of ( )
a) Engg and S & T b) Traffic and S & T
c) S & T, Engg and Traffic d) S & T and operating

99) Train vehicle units per day is calculated based on ( )
a) no. of passengers x no. of road vehicle b) no. of trains x no. of pedestrians
c) no. of trains x no. of passengers d) no. of trains x no. of road vehicle

100) Interlocking of LC gate is not required for ( )
a) Special class b) A class c) B class d) D class

101) Interlocking of LC gate is required for ( )
a) Special class b) A class c) B class d) all

102)Approach Warning to be provided at_____ ( )
a) Special class b) A class c) B class d) all

103) LC gate in automatic signaling section shall be ( )
a) Interlocked irrespective of classification b) Provided with approach warning
c) Approach locking d) all

104) Signal protecting LC gate in Automatic signalling section shall be provided with ( )

a) Provided with flashing light b) G Marker
c) Illuminated A marker d) b & c

105) Trap points are provided for ( )
a) Isolation purpose b) Flexibility purpose c) Parallel movements d) all

106) "S" marker is provided for out lay sidings taken off from ( )
a) station section b) block section c) Pit/washing line d) none

107) Passenger line must be isolated from goods /siding lines ( )
a) if the speed is more than 50 kmph b) if the speed is more than 75 kmph
c) irrespective of the speed d) none

108) Section capacity can be increased by provision of ( )
a) MA signaling system b) Simultaneous reception
c) Second distant signal d) all

109) Provision of Catch/Slip siding is permitted by ( )
a) CSTE b) CRS c) COM d) CE

110) Minimum signals required at class C station is ( )
a) Distant, home and starter b) Distant and home
c) Home and starter d) only home

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	c	b	d	b	c	b	a	a	a
11	12	13	14	15	16	17	18	19	20
b	c	d	b	b	c	a	a	d	a
21	22	23	24	25	26	27	28	29	30
a	d	d	a	c	b	b	d	b	a
31	32	33	34	35	36	37	38	39	40
c	d	b	a	c	d	d	b	a	c
41	42	43	44	45	46	47	48	49	50
c	b	c	d	d	b	a	a	b	c
51	52	53	54	55	56	57	58	59	60
a	b	a	b	c	d	d	b	d	a
61	62	63	64	65	66	67	68	69	70
c	c	c	a	a	d	d	a	c	c
71	72	73	74	75	76	77	78	79	80
b	b	c	b	c	d	c	a	b	a
81	82	83	84	85	86	87	88	89	90
a	c	d	b	b	a	c	d	d	b
91	92	93	94	95	96	97	98	99	100
c	a	c	d	b	a	b	c	d	d
101	102	103	104	105	106	107	108	109	110
d	d	d	d	a	b	c	d	b	b

ST-16 : ORTHODOX SIGNALLING

1) Levers are classified into_____orders. ( )
   a. Two b. Three c. Four d. Five

2) In catch handle locking interlocking frame the levers have an angular throw of _____degrees ( )
   a. 23 b. 33 c. 43 d. 53

3) A crank is defined as a lever on an axis used to change_____. ( )
   a. Direction b. Magnitude c. Both a & b d. force.

4) Accommodating cranks are available in_____Heights ( )
   a. 2 b. 3 c. 4 d. 5

5) An adjustable crank is always the_____crank of a rodding transmission ( )
   a. first b. Last c. middle d. all

6) The solid rodding diameter in_____mm. ( )
   a. 13 b. 23 c. 33 d. 43

7) The solid and tubular rodding are supplied in the length of_____feet. ( )
   a. 12 b. 14 c. 16 d. 18

8) Trestles are cast iron bases of height_____to which roller stand are fixed ( )
   a. 12 inches b. 15 inches c.18 inches d. 21 inches

9) For smooth movement of rodding it is supported on rollers which are called bottom rollers are spaced not more than_____feet. ( )
   a. 6 b. 7 c. 8 d. 5

10) The distance from the nearest rod to the centre of the nearest track should not be less than____mm ( )
   a. 1900 b. 1905 c. 1910 d. 1915

11) _____type of switches are available in Indian railways. ( )
   a. Loose heel b. Fixed heel c. both a & b d. None

12) Length of the tongue rail in 1 in 8-1/2 turn out is_____mm for 52 kg straight switch. ( )
   a. 4622 b. 4722 c. 4522 d. 4822

13) The length of tongue rail for 1:12 turn out is___mm for 52 kg curved switch ( )
   a. 9010 b. 9020 c. 9030 d. 9040

14) The tongue rail may be classified as worn-out / damaged when it is chipped / cracked over a length aggregation_____mm within the distance of 1000mm from its toe. ( )
   a. 100 mm b. 150mm c. 200mm d. 50mm

15) Chipped length will be portion when tongue rail has worn out for a depth of more than_____mm over a continuous length of 100 mm. ( )
a. 5 mm b. 8mm c. 10mm d. 12mm

16) The tongue rail is declared to be knife edge when thickness of top edge being less than_____mm ( )
mmb. 2mm c. 3mm d. 4mm

17) The length of the lock bar in case of BG is_____feet. ( )
a. 38 b. 40 c. 42 d. 44

18) Standard pulley stake length is_____mm ( )
a. 1200 b. 1210 c. 1220 d. 1230

19) Wire adjusting screw turn buckle size is_____. ( )
a. 350 b. 450 c. 550 d. 250

20) Horizontal rope wheels are of_____type. ( )
a. 1 way b. 2 way c. 3 way d. All

21) In MOLB boom locking is achieved through_____. ( )
a. Wire transmission b. rod transmission
c. Key transmission d. All

22) In MOLB opening and closing of barriers is achieved through_____. ( )
a. wire transmission b. rod transmission
c. key transmission d. All

23) The standard proportion of ingredients for signal foundation is_____ ( )
a. 1:2:5 b. 1:3:6 c. 1:2:4 d. 1:2:6

24) E-type lock maximum number is ( )
a. 22 b. 32 c. 42 d. 36

25) The winch is mainly consists of_____ ( )
a. pinion 'A' b. pinion 'B' c. locking wheel d. All

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
b	b	c	b	b	c	d	b	b	b
11	12	13	14	15	16	17	18	19	20
c	b	b	c	c	b	c	c	b	d
21	22	23	24	25					
b	a	b	c	d					

ST-18 : ICC, EKT & EPD

1) EKT is provided with_____number of armatures ( )
a. one b. two c. three d. four

2) Minimum working voltage of RKT is_____ ( )
a. 3.75 DC volt b. 18 volt DC c. 24 volt DC d. 12 volt DC

3) Resistance of the RKT coil is_____ ( )
a) 12.5 Ohms b) 600 Ohms c) 150 Ohms d) 220 Ohms

4) _____relay ensures one slot one train movement ( )
a. YR b. TSR c. YSR d. SR

5) When the point/ ED is set in normal, the slide with small depression corresponds to ( )
a . open switch b. close switch c. in between switch d. None

6) When point is in centre, in ED_____contacts makes ( )
a. ND & NSH b. RD & RSH c. NSH & RSH d. ND & RD

7) In ED_____contacts makes when point is set & locked in Normal position ( )
a. ND & RD b. ND & RSH c. ND & NSH d. None

8) ED should foul for locking & detection with_____obstruction in point ( )
a. 5 mm b. 3.25 mm c. 1.6 mm d. 1.0 mm

9) Detector contacts are numbered from ( )
a. Left to right b) Right to left c) Centre to left d) Centre to right

10) Each contact block consists of ( )
a) Fixed contacts b) detector contacts c) Shunt contact d) all

11) When point is unlocked ( )
a) Both shunt contacts will make b) detector contacts will break
c) a & b d) none

12) Unrelated part with IRS type detector is ( )
a) Milled steel base b) cast iron base c) contact block d) cast iron frame

13) Unrelated part with IRS type detector is ( )
a) Snubbing contacts b) detector slides c) shunt contacts d) cast iron frame

14) Contact operating mechanism consists of ( )
a) 2 sets of helical spring b) 2 sets of trolley rollers c) a and b d) none

15) Contact operating mechanism consists of ( )
a) 3 sets of bridge contacts b) yoke c) crank d) all

16) Two locking washers are provided to lock the base in final position ( )
a) before adjustment b) after adjustment c) during adjustment d) none

17) Each detector slide has_____ ( )
a) Single notch b) 2 notches c) 3 notches d) 4 notches

18) The depth of the notch is ( )
a) 3 mm b) 5 mm c) 7 mm d) 9 mm

19) Each detector slide consists of ( )
a) 2 short notches b) 2 long notches c) 1 short and 1 long notch d) none

20) Switch detection slides are of ( )
a) A type b) B type c) C and D type d) none

21) Lock slides are of ( )
a) A type b) B type c) C and D type d) a and b

22) "A" type lock slide is used for_____locking ( )
a) Straight through b) IN and Out c) Rotary d) none

23) "B " type lock slide is used for_____locking ( )
a) Straight through b) IN and Out c) Rotary d) none

24) Incorrect statement with an obstruction of 3.25 mm from 150 mm of toe ( )
a) Points will not be locked by the lock plunger
b) The bridge contacts do not make
c) shunt contacts will remain closed
d) none

25) Incorrect part related with EKT is ( )
a) Quick return gear b) electromagnet auxiliary pole
c) Electromagnet main pole d) none

26) Incorrect part related with EKT is ( )
a) Electromagnet b) operating piece c) stud d) none

27) _____numbers of brass tumblers control the movement of key ( )
a) 2 b) 3 c) 4 d) none

28) EKT transmission is provided with separate AC immunized relays in __ area ( )
a) RE area b) Non- RE area c) a and b d) none

29) Correct statement related with key transmitters is ( )
a) key can be extracted by jerk
b) key can be extracted by external force
c) key can be extracted when conditions are favorable
d) key can be extracted without conditions are favorable

30) EKT cover can be opened ( )
a) when the key is IN and locked condition b) when the key is out
c) a and b d) none

31) Incorrect statement related with key transmitters ( )
a) need not be tested periodically b) testing done only during inspection
c) must be tested periodically d) none

32) Sealing of EKT is ( )
a) compulsory b) not compulsory c) optional d) none

33) General maintenance of EKT as per SEM ( )
a) 7 days b) 15 days c) 21 days d) 30 days

34) Slotted signal is controlled by ( )
a) one agency only b) more than two agencies
c) more than three agencies d) b and c

35) Calling on signal is controlled by ( )
a) No slot b) Only calling on slot
c) Only Home signal slot d) Both calling on Slot & Home signal slot

36) Slotted signal can be taken off by ( )
a) one agency only
b) agencies which have control on the signal
c) agencies which do not have control on the signal
d) none

37) Slotting agencies must release their control only when_____ ( )
a) all conditions are favorable to take off signal
b) partial conditions are favorable to take off signal
c) conditions are not favorable to take off signal
d) none

38) Receipt of the slot is ( )
a) Compulsory for slotted signal b) not compulsory for slotted signal
c) optional d) none

39) In case of emergency signal can be put back by_____agency ( )
a) operating b) slotting c) a and b d) none

40) Dependant signal must be replaced to ON position when ( )
a) slotted signal is replaced to ON position b) slots are withdrawn
c) track circuit occupancy is proved in slot d) all

41) Slotted signal shall automatically replace to ON position when ( )
a) condition of track circuit is proved in the slot
b) condition of point circuit is proved in the slot

c) condition of level crossing is proved in the slot
d) none

42) Equipments used in slotting system is ( )
a) SM's slide control b) Slot indicators c) circuit controller d) all

43) Each SM's slide will have ( )
a) 1 set of normal and reverse contact
b) 1 sets of normal and 1 set of reverse contact
c) 2 sets of normal and 2 set of reverse contact
d) 2 sets of normal and 1 set of reverse contact

44) Slot indicators are of_____ ( )
a) single type b) two types c) three types d) none

45) Different type of slot indicators are ( )
a) banner type b) disc type c) luminous type d) all

46) YSR means ( )
a) slot stick relay b) slot slow relay
c) slot shunt relay d) slot sectional relay

47) All slots normal relay is ( )
a) YSR b) YNR c) YR d) YSNR

48) Slot I relay is ( )
a) YSR b) YNR c) YR d) YSNR

49) Track circuit condition is proved in ( )
a) YR b) YNR c) YSR d) all

50) Position of point is proved in ( )
a) YR b) YNR c) YSR d) all

51) Condition of relays when slotted signal is not operated ( )
a) YNR ↑ YSR ↑ YR ↑ b) YNR ↑ YSR↓ YR ↑
c) YNR ↓ YSR↓ YR ↓ d) YNR ↑ YSR↑ YR ↓

52) Condition of relays when slotted signal is operated ( )
a) YNR ↑ YSR ↑ YR ↑ b) YNR ↓ YSR↑ YR ↑
c) YNR ↓ YSR↓ YR ↓ d) YNR ↑ YSR↑ YR ↓

53) Position of relays after train passed slotted signal in OFF condition ( )
a) YNR ↑ YSR ↑YR ↑ b) YNR ↓ YSR↑ YR ↑
c) YNR ↓ YSR↓ YR ↓ d) YNR ↑ YSR↑ YR ↓

54) Position of relays when train passed slotted signal at ON position ( )
a) YNR ↑ YSR↓ YR ↓ b) YNR ↓ YSR↑ YR ↑
c) YNR ↓ YSR↓ YR ↓ d) YNR ↑ YSR ↑ YR ↑

55) Track occupancy is proved in ( )

a) YR b) YNR c) YSR d) none

56) All slots normal relay is ( )

a) YR b) YNR c) YSR d) none

57) Relays which picks up when all slots are normalised after the train movement ( )

a) YNR, YR b) YNR, YSR c) YR, YSR d) none

58) Relay which drops when slot is released ( )

a) YNR b) YSR c) YR d) None

59) Track occupancy is not proved in ( )

a) YNR b) YSR c) YR d) a and c

60) Relays which are normally in energized condition ( )

a) YSR, YR b) YNR, YR c) YNR, YSR d) None

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
b	a	a	c	b	c	c	b	a	d
11	12	13	14	15	16	17	18	19	20
c	a	a	c	d	b	b	c	c	c
21	22	23	24	25	26	27	28	29	30
d	b	a	d	d	d	b	a	c	b
31	32	33	34	35	36	37	38	39	40
c	a	b	d	d	b	a	a	c	d
41	42	43	44	45	46	47	48	49	50
a	d	c	c	d	a	b	c	c	a
51	52	53	54	55	56	57	58	59	60
d	b	c	a	c	b	b	a	d	c

ST-19 : SIGNALLING RELAYS AND CABLES

1) Normal rated working voltage of QN1 is ___ ( )
   a. 12v DC b. 24v DC c. 60v DC d. 110v DC

2) Normal rated working voltage of QL1 is ___ ( )
   a. 12v DC b. 24v DC c. 60v DC d. 110v DC

3) Normal rated working voltage of QB3 is ___ ( )
   a. 12v DC b. 24v DC c. 60v DC d. 110v DC

4) Normal rated pick up voltage of QTA2 is ___ ( )
   a. 1.4v DC b. 1.75v DC c. 2.8v DC d. 4.2v DC

5) Normal rated pick up voltage of QBAT is ___ ( )
   a. 1.4v DC b. 1.75v DC c. 2.8v DC d. 4.2v DC

6) QT2 relay is a _____ ( )
   a. Heavy duty b. Track relay c. Neutral relay d. K-50 relay

7) QBCA1 relay is a _____ ( )
   a. Heavy duty b. Track relay c. Neutral relay d. K-50 relay

8) Which of the following relay has two coils for picking up and dropping ( )
   a. QBA1 b. QSPA1 c. QL1 d. QS3

9) Which of the following relay is used in push button type block instrument ( )
   a. QBA1 b. QSPA1 c. QL1 d. QS3

10) Which of the following relay is used in DAIDO block instrument ( )
   a. QBA1 b. QSPA1 c. QL1 d. QS3

11) _____ type relay is used in push button block instrument line circuit ( )
   a. QBA1 b. QB3 c. QL1 d. QN1

12) _____type relay is used in DAIDO block instrument line circuit ( )
   a. QBA1 b. QB3 c. QL1 d. QN1

13) _____type relay is not provided with residual pin ( )
   a. QBA1 b. QB3 c. QL1 d. QN1

14) For AC immunization feature in the relay_____is provided ( )
   a. copper slug b. permanent magnet
   c. magnetic shunt d. blow out magnets

15) For biasing feature in the relay____is provided ( )
   a. copper slug b. permanent magnet
   c. magnetic shunt d. blow out magnets

16) For spark quenching at heavy duty contacts in QBCA1 relay, ___is provided ( )
a. copper slug b. permanent magnet
c. magnetic shunt d. blow out magnets

17) ____ohms ACI TR only to be used in RE area irrespective of any TC lengths ( )
a. 200 b. 400 c. 9 d. 4.5

18) The percentage of release for Q-series track relay is not less than___ ( )
a. 33% b. 50% c. 60 % d. 68%

19) Slow to pick up time of QSPA1 relay is____ ( )
a.500msec b.540-600msec c. 60 sec d. 120 sec

20) The periodical replacement of QBCA1 relay is once in_____years ( )
a.12 b.25 c. 10 d. 28

21) Q-series relays are of_____type contacts ( )
a. dependent b. independent c. both d. none

22) The maximum number of contacts in Q-series relay is____ ( )
a. 6 b. 8 c. 12 d. 16

23) Contact resistance of Q-series relay is____ ( )
a. 0.20 ohms b. 0.18 ohms c. 0.05 ohms d. 1.8 ohms

24) For slow to pick up / release in QSPA1 / QSRA1 relay_____is provided ( )
a. copper slug b. permanent magnet
c. magnetic shunt d. blow out magnets

25) The maximum contacts combination available in Q-series relay is____ ( )
a. 12F/4B b. 8F/8B c. both d. none

26) Q-series relay front & back contacts are made of_____ ( )
a. silver oxide b. silver impregnated graphite c. both d. none

27) Q-series relay arm contacts are made of_____ ( )
a. silver oxide b. silver impregnated graphite c. both d. none

28) In Q-series relay,_____contacts are movble contacts ( )
a. front b. back c. arm d. none

29) _____relay senses the current direction through relay coil ( )
a. AC immunized b. polarized c. DC biased d. none

30) ____relay is used in indication line circuits of double line block instrument ( )
a. AC immunized b. polarized c. DC biased d. none

31) Polarized relay is provided with_____type of contacts ( )
a. dependent b. independent c. both d. none

32) Polarized relay coil resistance is_____ohms ( )
a. 9 b. 77 c. 200 d. 400

33) Polarized relay is provided with_____contacts ( )
a. 2F/2B b. 2NC/2RC c. 1F/1B d. 1NC/1RC

34) Working voltage of Q-series twin neutral line relay (QNN1) is_____ ( )
a. 24v DC b. 10v DC c. 60v DC d. 110v DC

35) _____relay is not having POH date ( )
a. QN1 b. QT2 c. QTA2 d. QBAT

36) Q-series relays are provided with_____type of contacts ( )
a. metal to metal b. metal to carbon
c. carbon to carbon d. carbon to metal

37) QN1 relay coil resistance is_____ ( )
a. 200 ohms b. 400 ohms c. 9 ohms d. none

38) QNA1 relay coil resistance is_____ ( )
a. 200 ohms b. 400 ohms c. 9 ohms d. none

39) The periodical replacement of track relay is once in_____ ( )
a. 10 years b. 15 years c. 7 years d. 12 years

40) Maximum voltage for QTA2 should be up to ____under maximum B.R. ( )
a. 125% of it's normal rated P.U. value
b. 235% of it's normal rated P.U. value
c. 250% of it's normal rated P.U. value
d. 300% of it's normal rated P.U. value

41) Minimum voltage for QTA2 should be up to_____under minimum B.R. ( )
a. 125% of it's normal rated P.U. value
b. 235% of it's normal rated P.U. value
c. 250% of it's normal rated P.U. value
d. 300% of it's normal rated P.U. value

42) Maximum voltage for QBAT should be up to_____under maximum B.R. ( )
a. 125% of it's normal rated P.U. value
b. 235% of it's normal rated P.U. value
c. 250% of it's normal rated P.U. value
d. 300% of it's normal rated P.U. value

43) Minimum voltage for QBAT should be upto_____under minimum B.R. ( )
a. 122% of it's normal rated P.U. value
b. 235% of it's normal rated P.U. value
c. 250% of it's normal rated P.U. value
d. 300% of it's normal rated P.U. value

44) In non-RE area_____track relay is used ( )
a. QBAT b. QTA2 c. QT2 d. QT1

45) Normal rated working voltage of k-50 series (Siemens) relay is____ ( )
a. 12v DC b. 24v DC c. 60v DC d. 110v DC

46) Contact resistance of K-50 relay is____ ( )
a. 0.20 ohms b. 0.18 ohms c. 0.05 ohms d. 1.8 ohms

47) The maximum number of contacts in K-50 relay is ( )
a. 6 b. 8 c. 12 d. 16

48) The maximum contacts combination available in K-50 relay is____ ( )
a. 5F/3B b. 4F/4B c. 6F/2B d. All

49) K-50 series relays are provided with_____type of contacts ( )
a. metal to metal b. metal to carbon
c. carbon to carbon d. carbon to metal

50) The periodical replacement of QL1 relay isoncein_____ ( )
a. 10years b. 15years c. 7years d. 12 years

51) Tail Cables are meggered once in a_____ ( )
a. 6 months b. 12 months c. 10 months d. 36 months

52) U/G main cables conductor insulation test will be carried out once in___ ( )
a. 6 months b. 12 months c. 10 months d. 36 months

53) Size of the conductor in 20-core signaling cable is_____sq. mm ( )
a. 1.2 b. 1.5 c. 2.25 d. 2.5

54) Cross section of 2 core aluminum Power cable is ___sq. mm ( )
a. 2.5 b. 25 c. 35 d. 1.5

55) Loop resistance of quad cable with 0.9 .mm dia_____Ω/Km ( )
a. 56 b. 28 c. 46 d. Infinite

56) Loop resistance of signaling cable(1.5sq.mm.) is_____Ω/km ( )
a.56 b. 22.4 c.10 d.16

57) Conductor size of 2 core signaling Cable used in track circuits is _ ( )
a) 25 sq. mm. b) 2.5 sq mm. c) 1.5 sq.mm. d) 50 sq. mm.

58) For laying cable, the size of the cable trench shall be_____ ( )
a) 1m. width & 30cm. Depth b) 1m. Depth & 30cm. Width
c) 1.5.m. depth & 30cm. Width d) 60cm. Depth & 30cm.Width

59) Insulation resistance of cable must be_____MΩ / per KM ( )
a. Greater or equal to 5 b. below 5
c. Greater than 1 d. None of the above

60) 6 Quad cable is used for_____. ( )
a) Point Operation b) Signal Operation
c) Axle Counter d) Lever Lock

61) While crossing the track, Cable should be laid_____ ( )
a) in GI/ RCC Pipe b) perpendicular to track
c) At a depth of 1 Mtr d) All the above

62) Spare conductors to a minimum of_____% of the total conductors used shall be provided for in each main cable up to the farthest point zone. ( )
a) 0 % b) 10 % c) 20 % d) 50%

63) The spare conductors shall be provided on the_____layer. ( )
a) Inner most b) Middle c) Outermost d) All the above

64) As per SEM part II Para 15.12 the cable laid parallel to the track shall normally be buried at a depth of_____meters from ground level. ( )
a) 1.0 mt b) 1.5 mt c) 0.8 mt d) 1.2 mtrs

65) _____Cables shall be used in all signalling circuits. ( )
a) Screened cables only b) Un Screened cables only
c) Screened and Un screened cables d) None of the above

66) Testing the signaling cables is done with ( )
a) Multimeter b) Earth leakage detector
c) 500 V DC megger d) both b and c above

67) Each layer in an Outdoor Cable ( )
a) starts from blue conductor and ends with yellow conductor
b) starts from blue conductor and ends with grey conductor
c) starts from grey conductor and ends with yellow conductor
d) None

68) The cable shall be laid so that it is not less than one meter from the nearest edge of the mast supporting the catenary or any other live conductor provided the depth of the cable does not exceed ( )

a) 0.5 meters. b) 1 meter c) 3 mtrs d) None

69) When the cable is laid at a depth greater than 0.5 meters, a minimum distance between the cable and the nearest edge of the OHE structure must be ( )

a) 3 mtrs b) 0.3 mtrs c) 1 mtrs d)None

70) Insulation value of the cable at the time of commissioning should not be below _____MΩ/KM at 20°C ( )

a) 200. b) 10 c) 5 d) None

71) Suitable cable markers should be provided every_____along the cable route for easy identification ( )

a) 10 mtrs b) 15 mtrs c) 20 mtrs d) None

72) Outside station limits with OHE mast, the cable should generally be laid at not less than_____from the centre of the nearest track. ( )

a) 5.5 mtrs b) 55 mtrs c) 3 mtrs d) None

73) Within station limits without OHE mast, the cable should generally be laid at not less than_____from the centre of the nearest track ( )

a) 5.5 mtrs b) 55 mtrs c) 3 mtrs d) None

74) Common faults which develop on conductors of multi-core signalling cables are( )

a) Earth b) Short-Circuit c) Open -Circuit d) all the above

75) Earth fault develops in a conductor due to ( )

a) defective insulation of conductor b) Short-Circuit between conductors

c) breaking of a conductor d) None

76) _____Megger is used for testing signalling cables ( )

a) 500 V AC b) 110 V DC c) 500 V DC d) any of the above

77) _____Megger is used for testing telecom cables ( )

a) 500 V AC b) 100 V DC c) 500 V DC d) any of the above

78) Wire used for Q series relay wiring is ( )

a) 1.5 sq mm copper conductor

b) 16/0.20 mm dia. Flexible Copper wire (Multi strand)

c) 0.6 mm dia. Copper wire.

d) any of the above

79) If signaling cables are laid in the vicinity of the switching station earthing, the distance of the cable trench shall be ( )

a) atleast 5 mtrs away b) atleast 2 mtrs away

c) very near to switching station earth d) any of the above

80) Outside station limits, the cable should generally be laid at not less than _____ from the centre of the nearest track. ( )

a) 8-10 mtrs b) 55 mtrs c) 3 mtrs d) None

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
b	b	a	a	b	b	a	c	c	a
11	12	13	14	15	16	17	18	19	20
b	a	c	a	b	d	c	d	b	c
21	22	23	24	25	26	27	28	29	30
b	d	a	c	c	b	a	c	b	b
31	32	33	34	35	36	37	38	39	40
a	b	d	a	a	b	b	a	d	d
41	42	43	44	45	46	47	48	49	50
a	b	a	c	c	c	b	d	a	a
51	52	53	54	55	56	57	58	59	60
a	b	b	b	a	b	b	b	a	c
61	62	63	64	65	66	67	68	69	70
d	d	c	c	b	d	a	a	a	a
71	72	73	74	75	76	77	78	79	80
b	a	c	d	a	c	b	b	a	a

ST-20 : D.C. TRACK CIRCUIT

1) Q-series DC track relays must be replaced once in_____ ( )
   a. 5 years b. 7 years c. 9 years d. 10 years

2) Size of track tail / lead cable with copper conductor is_____ ( )
   a. 1.5 sq.mm b. 2.5 sq.mm c. 25 sq.mm d. 15 sq.mm

3) In a TC, the Lead cable is laid in between_____ ( )
   a. Location box to Location box b. Location box to TLJB
   c. TLJB to Track d. none

4) In a TC, the Tail cable is laid in between_____ ( )
   a. Location box to Location box b. Location box to TLJB
   c. TLJB to Track d. none

5) The variable resistance value in non-RE area DC track circuit is_____ ( )
   a. 0-15 ohms b. 0-30 ohms c. 0-25 ohms d. None

6) The main purpose of Variable Resistance in a TC is_____ ( )
   a. To protect feed end equipment b. to adjust voltage on T.R.
   c. to protect Relay d. a & b

7) The minimum Track Circuit Length should be of____lengths ( )
   a. 1 Rail b. 2 Rail c. 4 Rail d. 5 Rail

8) Maximum permitted Rail resistance for track circuit lengths up to 700m. is___( )
   a. 0.5 ohms/Km b. 1.5 ohms/Km c. 2 ohms/Km d. None

9) Maximum permitted Rail resistance for track circuit lengths above 700m. is _ ( )
   a. 0.5 ohms/Km b. 1.5 ohms/Km c. 2 ohms/Km d. None

10) Minimum permissible ballast resistance for T.C. in station yard ( )
   a. 2 Ω /km b. 4 Ω /km c. 10 Ω /km d. none

11) Under maximum ballast resistance, the voltage on T.R. is adjusted up to___( )
   a. 125% of it's normal rated P.U. value
   b. 300% of it's normal rated P.U. value
   c. 125% of it's normal rated D.A. value
   d. 300% of it's normal rated D.A. value

12) Under minimum ballast resistance, the voltage on TR should be not less than_( )
   a. 125% of it's normal rated P.U. value
   b. 300% of it's normal rated P.U. value
   c. 125% of it's normal rated D.A. value
   d. 300% of it's normal rated D.A. value

13) If feed end & relay end voltages are equal, then the_____ ( )
   a. Ballast resistance is zero b. Rail resistance is zero
   c. Ballast resistance is infinity d. Rail resistance is infinity

14) If feed end & relay end currents are equal, then the_____ ( )
a. Ballast resistance is zero b. Rail resistance is zero
c. Ballast resistance is infinity d. Rail resistance is infinity

15) As the BR value increases, the voltage on TR_____in a TC ( )
a. increases b. decreases c. no change d. none

16) As the BR value decreases, the voltage on TR_____in a TC ( )
a. increases b. decreases c. no change d. none

17) As the RR value increases, the voltage on TR_____in a TC ( )
a. increases b. decreases c. no change d. none

18) As the RR value decreases, the voltage on TR_____in a TC ( )
a. increases b. decreases c. no change d. none

19) If TC length decreased, the BR value_____in a TC ( )
a. increases b. decreases c. no change d. none

20) If TC length increased, the BR value_____in a TC ( )
a. increases b. decreases c. no change d. none

21) If TC length increased, the RR value_____in a TC ( )
a. increases b. decreases c. no change d. none

22) If TC length decreased, the RR value_____in a TC ( )
a. increases b. decreases c. no change d. none

23) In a TC,____to be done for keeping maximum Ballast Resistance condition ( )
a. no water stagnation b. ballast clearance c. both d. none

24) In a TC,____to be done for keeping minimum Rail Resistance condition ( )
a. double bonding b. neat & tight c. both d. none

25) The minimum ballast clearance should be____in a track circuit ( )
a. 15 mm b. 25 mm c. 50 mm d. 75 mm

26) When minimum TSR value is connected across the T.C., the T.R. must drop and voltage on T.R. should be_____of it's rated drop away value ( )
a. more than 85% b. less than 85% c. less than 125% d. less than 300%

27) Maximum Broken rail protection is available in_____ ( )
a. Series track circuit b. Parallel track circuit
c. Multiple track circuit d. None

28) PSC sleeper is tested with_____before laying in track circuit ( )
a. 100 V DC megger b. sensible multi meter
c. 500 V DC megger d. clip-on meter

29) To detect defective PSC sleeper is tested with_____in a track circuit ( )
a. 100 V DC megger b. sensible multi meter
c. 500 V DC megger d. clip-on meter

30) The resistance values between insert to insert of a PSC sleeper before laying in Track circuit should be not less than _____ , after 6 months of manufacturing ( )
a. 150 Ω b. 300 Ω c. 500 Ω d. 750 Ω

31) Testing of Glued Joints Insulation Resistance is done with_____ ( )
a. 100 V DC megger b. sensible multimeter
c. 500 V DC megger d. clip-on meter

32) The insulation resistance value should be____when tested Glued Insulation Joint in dry condition, before laying in a TC ( )
a. not less than 25 MΩ b. less than 25 MΩ
c. less than 3 KΩ d. not less than 3 KΩ

33) The insulation resistance value should be____when tested Glued Insulation Joint in wet condition, before laying in a TC ( )
a. not less than 25 MΩ b. less than 25 MΩ
c. less than 3 KΩ d. not less than 3 KΩ

34) In any case the dead section should be less than_____in B.G. ( )
a. 6 meters b. 8 meters c. 1.8 meters d. 10.8 meters

35) Normally the dead section in the point zone shall be less than___in BG ( )
a. 6 meters b. 8 meters c. 1.8 meters d. 10.8 meters

36) In a point zone, If dead section is more than 1.8m but less than 6m then, the track circuit length on either side of dead section must not be less than____ ( )
a. 6 meters b. 8 meters c. 10 meters d. 12 meters

37) The bond hole / drill bit size is_____mm dia. ( )
a. 6.8 b. 7.2 c. 7.8 d. 8.2

38) ___type pandrol clips to be provided for PSC sleepers at Glued Insulation Joints( )
a. I b. J c. K d. S

39) Never bypassed _____ in the track circuit ( )
a. TFBC b. Battery c. VR (RT) d. none

40) For each PSC sleeper, __ number of rubber pads & GFN liners are required ( )
a. 1 & 1 b. 2 & 2 c. 2 & 4 d. 4 & 4

41) In a track circuit, the B.R. is always aimed to be_____ohms ( )
a. zero to infinity b. zero c. infinity d. none

42) In a track circuit, the R.R. is always aimed to be_____ohms ( )
a. zero to infinity b. zero c. infinity d. None

43) In a T.C., if F/E and R/E voltages are equal, then_____is in good condition ( )
a. Ballast resistance b. Rail resistance
c. Variable resistance d. none

44) In a T.C., if F/E and R/E currents are equal, then_____is in good condition ( )

a. Ballast resistance b. Rail resistance

c. Variable resistance d. None

45) Percentage of release of T.R. is calculated with_____ formula ( )

a. (P.U. value ÷ D.A. value)100 b. (D.A. value ÷ P.U. value)100

c. (P.U. value × D.A. value) ÷ 100 b. (D.A. value × P.U. value) ÷ 100

46) Percentage of release of Track Relay should be not less than_____% ( )

a. 50 b. 60 c. 68 d. 85

47) In a T.C., B.R. is calculated by using F/E & R/E voltages and currents as____( )

a. Difference in voltages ÷ average of currents

b. Difference in currents ÷ average of voltages

c. Average of voltages ÷ difference in currents

d. Average of currents ÷ average of voltages

48) In a T.C., R.R. is calculated by using F/E & R/E voltages and currents as____( )

a. Difference in voltages ÷ average of currents

b. Difference in currents ÷ average of voltages

c. Average of voltages ÷ difference in currents

d. Average of currents ÷ average of voltages

49) Track relay sensitivity depends upon_____ ( )

a. Pick up value b. Drop away value c. % of Release d. None

50) Periodical Over Hauling of Track relay is once in_____years (latest) ( )

a. 10 b. 12 c. 14 d. none

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
d	b	c	b	a	d	b	b	a	a
11	12	13	14	15	16	17	18	19	20
b	a	b	c	a	b	b	a	a	b
21	22	23	24	25	26	27	28	29	30
a	b	c	c	c	b	a	b	d	c
31	32	33	34	35	36	37	38	39	40
a	a	d	a	c	d	b	b	c	c
41	42	43	44	45	46	47	48	49	50
c	b	b	a	b	c	c	a	c	b

ST-21 : 'LED' COLOUR LIGHT SIGNAL

1) Non-Blanking arrangement in current regulator is provided for home signal aspects_____ ( )
   a. RG b. HG c. DG d. UG

2) Blanking arrangement in current regulator is provided for home signal aspects_____ ( )
   a. RG b. HG c. DG d. Both b & c

3) For Yellow aspect of a main signal_____in current regulator ( )
   a. Blanking mode shall be selected
   b. Non-Blanking mode shall be selected
   c. Both a & b depending on the signal
   d. None

4) In the current regulator if Blanking / Non-Blanking mode is not selected, the C.R. by default_____ ( )
   a. works in Blanking mode b. works in Non-Blanking mode
   c. doesn't work d. None

5) The power supply coupler of the current regulator gives_____to the LED's in the main signal lighting unit ( )
   a. AC voltage b. DC voltage c. Frequency d. None

6) If the input voltage of the current regulator is decreased from 137.5V to 82.5 V AC, the current taken by the current regulator_____ ( )
   a. decreases b. increases c. remains constant d. None

7) If the input voltage of the current regulator is increased from 82.5V to 137.5 V AC, the current taken by the current regulator ( )
   a. decreases b. increases c. remains constant d. None

8) In integrated signal LED unit, Blanking / Non-blanking is provided for_____( )
   a. RG unit b. HG unit c. DG unit d. All

9) Codal life of a LED signal is_____ ( )
   a. 2 years b. 6 years c. 8 years d. 10 years

10) _____type of 'AC LED ECR' is only to be used for LED signals ( )
   a. QSPA1 b. QECX61 c. QNA1 d. both a & b

11) Jumpers on CR for selecting the type of_____used in the circuit ( )
   a. power supply b. ECR c. blanking & non blanking d. all

12) When LED illumination falls below 40%,_____forces to drop ECR ( )
   a. LED unit b. Sensors c. Current regulator d. HMU

13) Optical Sensors are provided in the LED unit for_____ ( )
a. Energizing ECR b. Sensing illumination in the unit
c. Sensing outside light d. Sensing engine head light

14) In latest lamp circuit, ECR relay shall be_____ ( )
a. Connected only on BX 110 V side
b. connected only on NX 110 V side
c. connected on BX 110 V or NX 110 V side
d. None

15) An ECR relay has_____contacts ( )
a. 4F / 4B b. 2F / 2B c. 6F / 6B d. 8F / 8B

16) Normal working voltage of LED signal unit is / are_____ ( )
a. 110 volt AC b. 24 volt DC
c. 230 AC d. 60 V DC

17) The rated voltage at Input terminals of current regulator for main signal ( )
a. 110 +/- 20% V AC b. 110 +/- 25%V AC
c. 110 +/- 15 V AC d. 110 +/- 10%V AC

18) The rated voltage at Input terminals for Calling-on signal ( )
a. 110 +/- 20% V AC b. 110 +/- 25%V AC
c. 110 +/- 15 V AC d. 110 +/- 10%V AC

19) The rated voltage at Input terminals for Route LED unit signal ( )
a. 110 +/- 20% V AC b. 110 +/- 25%V AC
c. 110 +/- 15 V AC d. 110 +/- 10%V AC

20) The rated voltage at Input terminals for Shunt LED unit ( )
a. 110 +/- 20% V AC b. 110 +/- 25%V AC
c. 110 +/- 15 V AC d. 110 +/- 10%V AC

21) The rated current at Input terminals for Main signal unit ( )
a. 150 mA +10%, -20% b. 140 mA +20%, -10%
c. 140 mA +10%, -20% d. 140 mA +20%, -20%

22) The rated current at Input terminals for Calling on LED unit ( )
a. 140 mA +10%, -20% b. 150 mA +20%, -10%
c. 150 mA +10%, -20% d. 140 mA +10%, -20%

23) The rated current at Input terminals for Route LED unit ( )
a. 25 mA +/- 20% b. 25 mA +/- 10%
c. 25 mA +/- 5% d. 25 mA +/- 15%

24) The rated current at Input terminals for Shunt LED unit ( )
a. 55 mA +/- 20% b. 55 mA +/- 10%
c. 55 mA +/- 5% d. 55 mA +/- 15

25) _____colour has more wave length ( )
a. Yellow b. Red c. Green d. White

26) In main signal lighting unit LED's are connected in_____combination ( )
a. series b. series-parallel c. parallel d. none

27) The main advantage of LED signals ( )
a. longer visibility b. life is more
c. power consumption is less d. All the above

28) The earth resistance of a signal unit should be less than ( )
a. 40 ohms b. 30 ohms c. 20 ohms d. 10 ohms

29) The S.I. unit for illuminance is_____ ( )
a. Flux b. Lux c. Newton d. Weber

30) The illumination measured at 1.5 meters from LED signal lighting unit in axial direction at rated voltage for RG LED unit should be_____ ( )
a. 150 LUX +40%, -10% b. 175 LUX +40%, -10%
c. 50 LUX +40%, -10% d. 30 LUX +40%, -10%

31) The illumination measured at 1.5 meters from LED signal lighting unit in axial direction at rated voltage for HG LED unit should be_____ ( )
a. 150 LUX +40%, -10% b. 175 LUX +40%, -10%
c. 50 LUX +40%, -10% d. 30 LUX +40%, -10%

32) The illumination measured at 1.5 meters from LED signal lighting unit in axial direction at rated voltage for DG LED unit should be _____ ( )
a. 150 LUX +40%, -10% b. 175 LUX +40%, -10%
c. 50 LUX +40%, -10% d. 30 LUX +40%, -10%

33) The illumination measured at 1.5 meters from LED signal lighting unit in axial direction at rated voltage for Calling-On LED unit should be _____ ( )
a. 150 LUX +40%, -10% b. 175 LUX +40%, -10%
c. 50 LUX +40%, -10% d. 30 LUX +40%, -10%

34) The illumination measured at 1.5 meters from LED signal lighting unit in axial direction at rated voltage for Route LED unit should be_____ ( )
a. 150 LUX +40%, -10% b. 175 LUX +40%, -10%
c. 50 LUX +40%, -10% d. 30 LUX +40%, -10%

35) The illumination measured at 1.5 meters from LED signal lighting unit in axial direction at rated voltage for Shunt LED unit should be_____ ( )
a. 150 LUX +40%, -10% b. 175 LUX +40%, -10%
c. 50 LUX +40%, -10% d. 30 LUX +40%, -10%

36) _____fuse rating is used for the LED signals lamp circuit ( )
a. 830 mA b. 530 mA c. 630 mA d. 730 mA

37) The working current of ECR relay is_____ ( )
a. 128 mA b. 148 mA c. 108 mA d. 208 mA

38) When one array fails in the main signal lighting unit ( )
a. ECR picks up b. ECR drops c.may pick up or drop d. All

39) The minimum visibility distance of Main LED signal lighting unit shall be _____ in clear day light with peak sun rays at rated voltage ( )
a. 200 m b. 400m c. 500 m d. 600 m

40) The minimum visibility distance of Direction type Route Indicator with three lit LED signal lighting units shall be _____ in clear daylight with peak sun rays at rated voltage ( )
a. 200 m b. 400m c. 500 m d. 600 m

41) The minimum visibility distance of LED signal lighting units, other than Main and Route signal lighting units, shall be _____ in clear daylight with peak sun rays at rated voltage ( )
a. 200 m b. 400m c. 500 m d. 600 m

42) In blanking mode, a Main Signal Lighting Unit shall extinguish when input current drawn by the current regulator falls outside specified limits of rated input current or illumination falls to a value _____ ( )
a. which is not less than 30% of nominal illumination
b. which is not less than 40% of nominal illumination
c. which is not less than 50% of nominal illumination
d. which is not less than 60% of nominal illumination

43) In Non - blanking mode, a Main Signal Lighting Unit shall remain lit when input current drawn by the current regulator falls outside specified limits of rated input current or illumination falls to a value _____ ( )
a. which is less than 30% of nominal illumination
b. which is less than 40% of nominal illumination
c. which is less than 50% of nominal illumination
d. which is less than 60% of nominal illumination

44) In blanking mode, a Main Signal Lighting Unit shall extinguish when illumination falls to a value which is not less than 40% of nominal illumination due to a failure or any other reason. In such case, current regulator should not draw input current _____at maximum rated voltage. ( )
a. more than 20 mA b. more than 15 mA
c. more than 40 mA d. more than 50 mA

45) In Non - blanking mode, a Main Signal Lighting Unit shall remain lit when illumination falls to a value which is not less than 40% of nominal illumination due to a failure or any other reason. In such case, input current drawn by current regulator shall be limited to_____to ensure dropping of ECR. ( )

a. less than 20 mA b. less than 30 mA

c. less than 40 mA d. less than 50 mA

46) Which color travels longer distance ( )

a. Violet b. Green c. Yellow d. Red

47) _____is connected across each LED to prevent failure of total array ( )

a. Capacitor b. Resistance c. Transistor d. Diode

48) _____number of shunt LED units to be lit for picking up of ECR ( )

a. 1 b. 2 c. 3 d. None

49) QECX 61 AC LED ECR is used for ( )

a. Main signal units b. Shunt units c. Route units d. All

50) One array is provided in the_____lighting LED units ( )

a. Shunt b. Route c. both a & b d. None

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	d	c	b	b	c	c	b	c	b
11	12	13	14	15	16	17	18	19	20
d	c	b	b	a	a	b	a	a	a
21	22	23	24	25	26	27	28	29	30
c	c	c	c	b	b	d	d	b	a
31	32	33	34	35	36	37	38	39	40
b	a	c	c	d	c	c	a	d	b
41	42	43	44	45	46	47	48	49	50
a	b	b	b	c	d	b	b	d	c

ST-22 : UNIVERSAL POINT MACHINE

1) The normal working current of Universal point machine ( )
   a. 2A-3A b. 3A-4A c. 5A-6A d. 8A-9A

2) For obstruction test, gauge is placed from the toe of switch at a distance of ( )
   a. 100 mm b. 120 mm c. 150 mm d. 175 mm

3) Point is reverse and locked condition_____indication relay picks up ( )
   a. NWKR b. RWKR c. WCR d. ASR

4) During point operation____&____contacts makes in universal point machine ( )
   a. ND & RD b. ND & RC c. NC & RC d. RC & RD

5) When point is set and locked in normal position, then_____makes. ( )
   a. RC contact b. NC contact c. ND contact d. a & c both

6) Drive rod is connected to_____ ( )
   a. point throw slide b. lock slide c. detection slide d. none

7) With____relay picking up, 110v DC is extended to point location through bus bar ( )
   a. WLR b. WCR c. PCR d. None

8) "No Go Gauge Obstruction test"_____mm thick obstruction is placed between switch and stock rail. ( )
   a. 5 mm b. 3.25 mm c. 1.6 mm d. None

9) Friction clutch in IRS type point machine_____ ( )
   a. self adjusting b. not self adjusting
   c. adjusted at workshop only d. a & c are correct

10) The stroke of IRS type electric Point Machine is_____mm ( )
   a) 115 b) 143 c) 200 d) 100

11) The total movement of drive disc is____ ( )
   a. 220 degrees b. 270 Degrees
   c. 180 degrees d. 360 degrees

12) Obstruction current shall be_____times the normal working current. ( )
   a. 1.5 to 2.5 b.1.5 to 2.0 c. 1.5 to 3.5 d. 2.5 times

13) When crank handle is inserted for cranking ( )
   a. 110V DC positive is cut off b. 110V DC negative is cut off
   c. 24V DC is cut off d. a & c are correct

14) Which Relay functions as timer in point circuit ( )
   a. WXR b. WJR c. WCR d. WLR

15) During obstruction test of motor operated point with 5mm test piece_____ ( )
   a. Point shall not lock b. Friction clutch shall slip
   c. Detection contacts shall not make d. all

16) The stroke of Point Machine used for Thick Web layout is___mm ( )
a) 115 b) 143 c) 220 d) 160

17) The opening of stock rail and tongue rail in TWS layout is_____mm ( )
a) 115 b) 160 c) 200 d) 100

18) TWS layout is provided with_____type of locking ( )
a) Direct locking b) Indirect locking
c) both a and b d) No locking is provided

19) Operating Voltage required to operate TWS point is_____ ( )
a) 24 V DC b) 110 V AC c) 12 V DC d) 110 V DC

20) Periodical lubrication checks for all gears of point machine should be done once in_____by technician. ( )
a) Daily b) 7 days c) 15 days d) 30 days

21) Point detection circuit voltage is_____ ( )
a) 24 V DC b) 110 V DC c) 12 V DC d) None

22) In universal point machine_____locking is provided. ( )
a) In and Out type b) Rotary type c) Both a and b d) None

23) _____type of motor is used in IRS electric point machine ( )
a) Shunt field DC b) Series field DC c) Split field DC Series d) None

24) The possibility of both slides moving together due to rust in case one slide connecting rod breaks is prevented by the provision of_____between them. ( )
a) Lubrication b) Brass plates c) Iron plates d) None

25) In a cross over point, both the points are operated in ( )
a) Series b) Parallel c) Series Parallel d) None

26) In a cross over point, Both the points are detected in ( )
a) Series b) Parallel c) Series Parallel d) None

27) Friction clutch in a point machine is a part of ( )
a) Crank handle cut out assembly b) Transmission assembly
c) Reduction gear assembly d) Contactor unit

28) Which of the following is not associated with a point machine ( )
a) Track locking test b) Correspondence test
c) “No go” test d) Fail safe adjustment

29) Which of the following is not associated with a point machine ( )
a) 110 V DC b) 24 V DC c) Cross protection d) 110 V AC

30) During initial adjustment of Point, With 3.25mm test piece placed at 150 mm from toe of the switch, ( )

a) Detection contacts should just make b) detection contacts should break

c) detection contacts should just break d) None of the above

31) With 1.6 mm test piece placed at 150 mm from toe of the switch, ( )

a) Detection contacts should just make b) detection contacts should break

c) detection contacts should just break d) None of the above

32) When a point is operated from Normal to Reverse With 5 mm test piece placed at 150 mm from toe of the switch, ( )

a) NC & RC break b) NC& RC make c) ND & RC break d) None

33) With 5 mm test piece placed at 150 mm from toe of the switch, ( )

a) Lock dog should not enter lock slide notch

b) Detection contacts should not make

c) Friction clutch should declutch

d) All the above

34) Insulation of winding in a motor of a point machine shall be ( )

a) More than 100 M Ohms b) More than 10 M Ohms

c) More than 10 Ohms c) None of the above

35) AC immunity of IRS Point machine point motor is ( )

a) 160 V DC b) 160 V AC c) 230V AC d) 110V DC

36) When point is set in Normal and locked, the following contacts make ( )

a) NC & ND b) ND & RC c) NC & RC d) RD & NC

37) When point is set in Reverse and locked, the following contacts make ( )

a) NC & ND b) ND & RC c) NC & RC d) RD & NC

38) When point is not set in N or R, the following contacts make ( )

a) NC & ND b) ND & RC c) NC & RC d) RD & NC

39) Mode of locking in TWS point layout is ( )

a) Rotary type b) Clamp type c) In and out type d) Both a and b

40) Mode of locking in conventional IRS point layout is ( )

a) Rotary type b) Clamp type c) In and out type d) Both a and b

41) As per Schedule of maintenance, IRSEM para 19.3.6(f), Annexure: 19-MS2, Voltages and Currents shall be measured at motor terminals in a point machine by signal maintainer once in ( )

a) Fortnight b) Month

c) Month in presence of JE/SSE d) Quarter in presence of JE/SSE

42) As per Schedule of maintenance, IRSEM para 19.3.6(f), Annexure: 19-MS2, Obstruction test for apoint machine to be conducted by signal maintainer once in ( )
a) Fortnight b) Month
c) Quarter d) Quarter in presence of JE/SSE

43) Crank handle key provided for manual operation of the points worked by electric point machine must be interlocked with ( )
a) signal HR circuit b) Point operation circuit
c) WLR circuit d) Point detection circuit

44) The crank handle key for each group of point machines should be so arranged that they ( )
a) Can be interchanged if required b) have same for all points
c) Cannot be interchanged d) None

45) Maximum permissible parallelism in meters between Point Contactor and Point Motor (160 V AC immunity) on single line is ( )
a) 910 b) 1000 c) 1100 d) 1500

46) Maximum permissible parallelism in meters between Point Contactor and Point Motor (160 V AC immunity) on double line is ( )
a) 910 b) 1000 c) 1100 d) 1500

47) Inspection and cleaning of inside equipment by opening the covers of point machines comes under ( )
a) Group A works b) Group B works c) Group C works d) None

48) A point machine should be provided at a minimum distance of_____meters from centre line of track (CLAT) ( )
a) 1 b) 1.5 c) 1.6 d) None

49) Which of the following is true for Track locking test conducted on point machine( )
a) Point does not operates when track drop
b) Point operation to complete even if track drops during operation
c) Both a and b
d) None

50) During obstruction in the point, the feed to point is automatically disconnected within _____times the normal operating time of point ( )
a) 1.5 to 2 b) Not exceeding 3.5 c) 5 d) None

51) In a point machine, Conversion of rotary motion into linear motion is achieved by( )
a) Friction clutch assembly b) rack and pinion arrangement.
c) Reduction gear assembly c) Friction clutch

52) In TWS layout, the clearance at junction of rail head (JOH) is ( )
a) 60 mm b) 115 mm c) 220 mm d) None

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	c	b	c	d	a	c	a	d	b
11	12	13	14	15	16	17	18	19	20
b	b	b	b	d	c	b	c	d	c
21	22	23	24	25	26	27	28	29	30
a	b	c	b	b	a	b	d	d	c
31	32	33	34	35	36	37	38	39	40
a	b	d	b	b	b	d	c	d	a
41	42	43	44	45	46	47	48	49	50
c	a	a	c	a	c	a	c	c	b
51	52	53	54	55	56	57	58	59	60
b	a								

ST-23a : PANEL INTERLOCKING (BRITISH SYSTEM)

1) SEM part -1,correction slip no18 calling on signal initiation time is_____sec ( )
   a) 60 b) 90 c) 120 d) 240

2) SEM part-1, correction slip no18 calling on signal below starter can be initiated( )
   a) after 60 sec
   b) Immediately after berthing track is occupied
   c) 120 sec after berthing track is occupied
   d) Immediately without berthing track is occupied

3) Calling on signal will not detect points in_____ ( )
   a) Route b) Isolation c) overlap d) none

4) Relay which ensures one signal one calling on principle is_____ ( )
   a) COJSLR b) CONJPR c) COCAR d) COAR

5) Calling on signal will lock_____ ( )
   a) Stop signal above it b) Shunt signal below it
   c) a & b d) none

6) Indication locking is proved in_____Circuit ( )
   a) TSR b) ASR c) UCR d) HR

7) Back/route locking is proved in_____Circuit ( )
   a) TSR b) ASR c) UCR d) HR

8) Indication locking is achieved through _____ ( )
   a) Signal controlling relays b) Signal lamp checking relays
   c) back lock TPR's d) a & b

9) Back/route locking is achieved through_____ ( )
   a) Signal controlling relays b) Signal lamp checking relays
   c) TPR's d) a & c

10) Calling on signal can be provided below_____ ( )
   a) Adv starter b) Adv starter and Routing home
   c) Adv starter and starter d) FSS and routing home

11) Calling on signal cannot be provided below_____ ( )
   a) Adv starter b) Routing home c) Starter d) First stop signal

12) Color of SH signal button/knob as per SEM is_____ ( )
   a) Red b) Red with white dot
   c) Yellow d) Yellow with white dot

13) Aspect of signal ahead is proved in_____Circuit ( )
   a) HR b) UCR c) TSR d) ASR

14) Relay which prevents unauthorized operation of panel is_____ ( )
a) TSR b) UCR c) SMR d) HR

15) Re clearance of signal after train movement even though signal knob is reverse is prevented by_____relay ( )
a) RR b) UCR c) UGR d) TSR

16) Previous routes released & signal knob normalized is proved in_relay circuit ( )
a) RR b) TSR c) UCR d) JSLR

17) _____ is proved to achieve approach locking ( )
a) UCR b) TSR c) Approach TPR d) b and C

18) Back lock TPR's are proved in_____ ( )
a) ASR b) JSLR c) TSR d) a and b

19) Point indication near point knob is given through_____ ( )
a) WKPR b) WSR c) WKR d) WLR

20) Aspect of signal ahead not blank is proved in_____ ( )
a) Calling ON signal HR b) Main signal HR
c) Shunt signal HR d) all

21) Combined TSR can be provided for signals with_____ ( )
a) Same route b) Conflicting to each other
c) common controlling TC d) all

22) Combined ASR can be provided for signals with_____ ( )
a) Same route b) Conflicting to each other
c) common controlling TC d) all

23) To achieve locking of conflicting signals_____is proved ( )
a) Front contact of ASR b) Back contact of UCR c) Back contact of RR d) all

24) UCR back contact is proved in_____circuit ( )
a) RLR b) RR c) ASR d) NJPR

25) Indication locking and back/route locking is proved in_____circuit ( )
a) UCR b) ASR c) WLR d) HR

26) Proving aspect of signal ahead is for_____ ( )
a) Flexibility b) Safety c) Red lamp protection d) b and c

27) OVSR will hold the points in the_____ ( )
a) Overlap b) Isolation c) Route d) b and c

28) For stopping train OVSR picks up_____ ( )
a) after 60 sec b) after 120 sec c) immediately d) none

29) ____relay is normally in energized condition ( )
a) UCR b) JSLR c) OVSR d) UYR

30) Relay controlling the caution aspect of the signal is _____ ( )
a) DR b) HHR c) UGR d) HR

31) Relay controlling the Attention aspect of the signal is _____ ( )
a) HHR b) DR c) HR d) UGR

32) Relay controlling the proceed aspect of signal is _____ ( )
a) DR b) HHR c) HR d) UGR

33) Point zone TPR contacts are proved in _____ ( )
a) UCR b) WLR c) TSR d) UGR

34) Point zone TPR is bypassed with_____in WLR circuit ( )
a) WLR front contact b) WLR back contact
c) ASR front contact d) ASR back contact

35) WLR back contact is proved as cross protection contact in_____circuit ( )
a) WKR b) WSR c) WKPR d) NWR/RWR

36) Route slit indication on panel is given through_____contact ( )
a. UCR pick up b. HR pick up c. ASR drop d. ASR UP

37) Point slit indication on the panel is given through_____contact ( )
a. WKR UP b. WKPR UP c. WSR UP d. ASR UP

38) _____Relay initiates route cancellation ( )
a. JSLR b. RJPR c. NJPR d. ASR

39) _____relay picks up when signal knob is reversed ( )
a) TSR b. UCR c. ASR d. NJPR

40) Point Free indication near point knob is given through_____ ( )
a) ASR ↑ and Point zone TPR ↑ b) NCR ↑ / RCR ↑
c) UCR ↓ and HR ↓ d. WLR ↑

41) Interlocking between conflicting signals is achieved in_____circuit. ( )
a) UCR and ASR b) UCR and TSR c) UCR and HR d) TSR and HR

42) ___is provided to prevent vital circuits do not operate with false feed ( )
a. Red lamp protection b. Double cutting
c. Cross protection d. b & c

43) ____locking is provided where there are no track circuits in rear of the signal ( )
a) Approach b) Dead approach c) Track d) all

44) _____locking is provided for the purpose of safety ( )
a) Approach b) Dead approach c) Track d) all

45) The correspondence of point knob is proved in_____ ( )
a) WSR b) WKPR c) WKR d) all

46) NCR/RCR contacts are proved in_____ ( )
a) WLR b) WSR c) WKPR d) all

47) TPR's are not proved in _____ ( )
a) ASR b) UCR c) JSLR d) UYR's

48) In home/calling-on RLR circuit _____ interlocking condition is proved ( )
a) partial b) complete c) no d) none

49) All the conditions for clearing the signal is proved in_____circuit ( )
a) WLR b) ASR c) UCR d) HR

50) Colour of signal knob is_____ ( )
a) Red b) yellow c) blue d) grey

51) _____relay picks up after a time lag ( )
a) JSLR b) NJPR c) UYR d) COCAR

52) _____relay picks up when calling on track is occupied ( )
a) JSLR b) NJPR c) COAR d) COCAR

53) _____relays are made slow to release ( )
a) COCAR b) JSLR c) UYR d) all

54) __relay picks when cancellation button is pressed in route locked condition ( )
a) UYR b) TSR c) JSLR d) none

55) ____is mandatory to prove in signal control circuit ( )
a) Signal in advance and rear must not be blank
b) Signal in advance must not be blank
c) neither advance nor rear signal condition is proved
d) Signal in rear must not be blank

56) Length of approach track for providing approach locking on home signal is__( )
a) 1 km b) 1.4 km c) 65 mt d) none

57) Controlling and back lock tracks are same for____signal ( )
a) home b) calling on c) starter d) shunt

58) Controlling and back lock tracks are different for____signal ( )
a) home b) starter c) shunt d) a and b

59) Track red indication on panel appears when_____ ( )

a) track is free b) track circuit failed

c) track is occupied d) b and c

60) For home signal_____points are proved ( )

a) points in the route b) points in overlap

c) points in isolation d) all

61) For starter signal_____points are proved ( )

a) points in the route b) points in isolation

c) points in overlap d) a and b

62) For calling-on signal_____points are proved ( )

a) points in the route b) points in isolation

c) points in overlap d) a and b

63) Advantages of electrical interlocking is ( )

a) easy maintenance b) easy installation

c) efficient and easy operation d) all

64) Following conditions are ensured before operating the point ( )

a) SM's key IN b) free from track lock

c) free from route lock d) all

65) UCR is_____relay ( )

a) route holding b) route releasing

c) route checking d) route locking

66) When OVSR drops,_____ ( )

a) locks overlap points only b) locks points in the route only

c) locks isolation points only d) for unlocking the overlap point

67) When ASR picks up_____ ( )

a) route is released b) points are unlocked

c) UYR's drop d) all

68) In case of dead approach locking, route will be released_____ ( )

a) after train movement b) with cancellation

c) a and b d) none

69) Which statement is incorrect ( )

a) crank handle is interlocked with signal

b) crank handle can be extracted after signal is taken off

c) crank handle cannot be extracted after signal is taken off

d) crank handle can be extracted before signal is taken off

70) UCR back contact is proved in_____circuit ( )
a) RLR b) RR c) ASR d) NJPR

71) Incorrect statement regarding TSR is,_____ ( )
a) normally in energized condition b) holds through stick path
c) proved in ASR for approach locking d) proved in UCR circuit

72) Incorrect statement regarding COAR is_____ ( )
a) normally in drop condition
b) picks up when calling on track occupied
c) pick up contact is not proved in CO HR
d) pick up contact is proved in CO HR

73) Incorrect statement regarding SMR is,_____ ( )
a) pick up contact is proved in ASR
b) pick up contact is proved in UCR
c) pick up contact is proved in NCR/RCR
d) JSLR

74) Incorrect statement regarding UCR is,_____ ( )
a) track pick up condition is proved b) must be an authorized operation
c) concern crank handle IN d) conflicting signals are not taken off

75) _____relay proves that cancellation circuit is not in progress ( )
a) JSLR b) RJPR c) COCAR d) all

76) Relays which pick up during the train movement to release the route after train movement is,_____ ( )
a) ASR's/ASPR's b) COAR/COCAR c) JSLR/NJPR d) UYR's

77) Siding normal proving relay is_____ ( )
a) Siding YPR b) Siding SPR c) Siding NPR d) Siding RPR

78) _____relay proves that prescribed time is lapsed during cancellation ( )
a) ASR b) COCAR c) NGPR d) NJPR

79) Lamp failure indication relay is_____ ( )
a) GXJR b) JXGR c) GEJR d) LFJR

80) UYR's are made slow to release,_____ ( )
a) till ASR picks up
b) till ASR picks up and holds through its last repeater relay

c) till JSLR picks up and holds through its last repeater relay
d) none

81) JSLR is made slow to release_____ ( )
a) till ASR picks up
b) till ASR picks up and holds through its last repeater relay
c) till JSLR picks up and holds through its last repeater relay
d) none

82) GXJR will be_____ ( )
a) Normally energized relay b) Normally de-energized relay
c) pick up when signal is operated d) pick up when signal is blank

83) For operation of points in route setting type RRI_____position point switches are used. ( )
a) single b) two c) three d) all

84) The 3 positions of point switch in RRI are_____ ( )
a) Normal position b) centre position
c) reverse position d) all

85) For auto operation of points in RRI, point switch must be in_____position ( )
a) normal position b) reverse position
c) centre position d) none

86) GNR is_____ ( )
a) point button relay b) route button relay
c) all signal button normal relay d) none

87) All signal button normal relay is_____ ( )
a) UNR b) GNCR c) GNR d) UNCR

88) All point button normal relay is_____ ( )
a) WNCR b) WNR c) WRR d) WCNR

89) GN is_____ ( )
a) route button b) common route button
c) signal button d) common signal button

90) Route setting type interlocking is also called as_____ ( )
a) Entry and Entry type b) Entry and Exit type
c) Exit and Exit type d) none

91) Color light signaling is_____ ( )
a) compulsory in RRI b) compulsory in PI
c) optional in PI d) a and c

92) Sectional route release is_____ ( )
a) b and d b) compulsory in RRI
c) compulsory in PI d) optional in PI

93) identify the statement which is incorrect,_____ ( )
a) RRI is suitable for major yards
b) PI is suitable for smaller yards
c) In RRI points are operated individually before signal is operated
d) Sectional route release is compulsory in RRI

94) Cross protection to HR relay is achieved through_____ ( )
a) RR front contact b) UCR back contact
c) RR back contact d) UCR front contact

95) Indication, route and approach locking are proved in_____ ( )
a) HR b) UCR c) ASR d) TSR

96) Statement incorrectly related to pick up WLR is_____ ( )
a) NCR/RCR up b) ASR's/ASPR's up
c) Back lock TPR's up d) pt zone TPR up

97) Relay which will be in picked up condition before & after signal is taken off__ ( )
a) TSR b) UCR c) ASR d) HR

98) When home signal is approach locked, route can be released in_____ways ( )
a) 2 b) 3 c) 4 d) 5

99) When home signal is not approach locked, route can be released in___ways( )
a) 2 b) 3 c) 4 d) 5

100) Starter route can be released through____ ( )
a) UYR's path b) JSLR/NJPR path
c) TSR/App TPR path d) all

101) Conditions proved in UCR, ASR and HR are reflected in_____ ( )
a) Table of control b) Signalling plan
c) Engineering plan d) cable route plan

102) Circuit testing consists of_____ ( )
a) Negative tests
b) Dead/Approach locking tests
c) Back/Route locking tests
d) all

103) Incorrect statement related with TSR is_____ ( )
a) picks up with 1st controlling track b) signal knob normal
c) previous routes released d) none

104) Relay controlling the proceed aspect of Signal is_____ ( )

a) DR b) HHR c) HR d) UGR

105) Incorrect statement regarding proving of SMR 'F' contact in____ ( )

a) NCR/RCR b) JSLR c) CH EKT coil d) NJPR

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	b	c	d	c	b	b	d	c	d
11	12	13	14	15	16	17	18	19	20
a	c	a	c	d	b	d	d	c	b
21	22	23	24	25	26	27	28	29	30
d	d	d	c	b	d	a	b	c	d
31	32	33	34	35	36	37	38	39	40
a	a	b	a	d	c	b	a	b	a
41	42	43	44	45	46	47	48	49	50
c	d	b	d	c	a	b	c	d	a
51	52	53	54	55	56	57	58	59	60
b	c	d	c	b	a	d	d	d	d
61	62	63	64	65	66	67	68	69	70
d	d	d	d	c	a	d	c	b	c
71	72	73	74	75	76	77	78	79	80
d	c	a	a	b	d	c	d	a	b
81	82	83	84	85	86	87	88	89	90
b	a	c	d	c	d	b	a	c	b
91	92	93	94	95	96	97	98	99	100
d	a	c	b	c	c	a	c	b	d
101	102	103	104	105					
a	d	d	a	d					

ST-24 : AXLE COUNTERS & BPAC

1) In CEL SSDAC data packets consists of_____ ( )
   a. Count Information b. Reset Information
   c. Error Information d. All

2) In CEL SSDAC MODEM is_____ ( )
   a. V-21 b. V-22 c. V-23 d. V-24

3) In CEL SSDAC the approximate cycle time is_____micro seconds ( )
   a. 50 b. 75 c. 100 d. 125

4) In CEL SSDAC for fixing of coils_____mm dia hole is to be drilled ( )
   a. 10 mm b. 2 mm c. 14 mm d. 16 mm

5) In CEL SSDAC the axle detectors are fixed at a distance of_____m from Glued Joint ( )
   a. 23 b. 27 c. 30 d. 33

6) The distance between two Axle detectors of two SSDAC systems is at greater than_____meters to avoid mutual interference ( )
   a. 1.5 m b. 1.6 m c. 1.8 m d. 2 m

7) The Axle detectors are fixed in clear spacing of_____mm between the two sleepers ( )
   a. 200 b. 300 c. 400 d. 500

8) The default factory address setting for Entry unit is___in CEL SSDAC ( )
   a. 01 h b. 02 h c. 03 h d. 04 h

9) The default factory address setting for Exit unit is___in CEL SSDAC ( )
   a. 01 h b. 02 h c. 03 h d. 04 h

10) _____No. of address pairs are designed for setting in CEL SSDAC ( )
   a. 12 b. 13 c. 14 d. 15

11) _____is the carrier frequency for Entry unit in CEL SSDAC ( )
   a. 980 Hz b. 1650 Hz c. 1800 Hz d. 2700 Hz

12) _____is the carrier frequency for Exit unit in CEL SSDAC ( )
   a. 980 Hz b. 1650 Hz c. 1800 Hz d. 2700 Hz

13) The MLB keeps the track of_____counts in CEL SSDAC ( )
   a. Primary Counts b. Secondary Counts
   c. Remote Counts d. All

14) The MLB card sends the Primary / secondary counts to the remote SSDAC on regular basis of every____milli seconds in CEL SSDAC ( )
   a. 600 b. 700 c. 800 d. 900

15) The 8 LEDs on the MLB Card denotes___error code in CEL SSDAC ( )
a. Binary b. Octa Decimal c. Hexa Decimal d. Decimal

16) The Event Logger has___MB Flash Memory to store packets in CEL SSDAC ( )
a. 2 b. 4 c. 6 d. 8

17) In CEL SSDAC Event Logger card _____Pages of data can be stored in Flash Memory. ( )
a. 1024 b. 2048 c. 4096 d. 512

18) In CEL SSDAC the data can be stored in Flash Memory in____basis ( )
a. LIFO b. LILO c. FILO d. FIFO

19) The Modem card will have____FSK Modem chip in CEL SSDAC ( )
a. 7510 b. 7410 c. 7610 d. 7710

20) The Error logs can be viewed by pressing the Reset button for____seconds in CEL SSDAC ( )
a. 5 b. 7 c. 8 d. 10

21) DIP Switch setting for Entry Unit Reset Box for CEL SSDAC is_____ ( )
a. OFF, OFF, OFF, OFF b. OFF, OFF, OFF, ON
c. OFF, OFF, ON, OFF d. OFF, OFF, ON, ON

22) DIP Switch setting for Exit Unit Reset Box for CEL SSDAC is_____ ( )
a. OFF, OFF, OFF, OFF b. OFF, OFF, OFF, ON
c. OFF, OFF, ON, OFF d. OFF, OFF, ON, ON

23) The condition of jumpers J1 and J2 in CEL SSDAC is_____ ( )
a. Short Open b. Open Short c. Short short d. Open Open

24) The push button and SM's Key are connect____in CEL SSDAC ( )
a. Series b. Parallel c. Independent d. None

25) Tx coil voltage is____in CEL SSDAC ( )
a. 30 – 40 v b. 40 – 50 v c. 50 – 60 v d. 60 – 70 v

26) The GG Tronics SSDAC system can be configurable as_____ ( )
a. 2DP 1S b. 3DP 1S c. 3DP 2S d. All

27) The baud rate for communication between SF & EF units is_____ in GGTronics SSDAC ( )
a. 300 bps b. 600 bps c. 900 bps d. 1200 bps

28) ___Frequencies are used for driving Axle detectors in GG Tronics SSDAC ( )
a. 21 & 23 KHz b. 21 & 25 KHz c. 21 & 27 KHz d. 30 & 31 KHz

29) ____Principle is used in sensing passage of wheel in GG Tronics SSDAC ( )
a. Amplitude Modulation b. Phase Reversal
c. Both A & B d. Current Damping

30) The Axle detectors can sense up to____Kmph in GG Tronics SSDAC ( )
a. 140 b. 160 c. 200 d. 250

31) The system senses wheels above_____dia in GG Tronics SSDAC ( )
a. 400 mm b. 450 mm c. 500 mm d. 550 mm

32) Two consecutive motor trolleys entering the same section with in a time gap of more than____seconds are allowed in GG Tronics SSDAC ( )
a. 3 b. 4 c. 5 d. 6

33) If one field unit is Reset and the second one is not Reset within___minutes The Reset initiation will be automatically cancelled in GG Tronics SSDAC ( )
a. 3 b. 4 c. 5 d. 6

34) The voltage window circuit ensures that the Reset potential is maintained within the limits of_____in GG Tronic SSDAC ( )
a. 40 – 48 v b. 38 – 48 v c. 36 – 50 v d. 36 – 52 v

35) GG Tronics SSDAC mother board will have____No. of slots ( )
a. 7 b. 8 c. 9 d. 10

36) When train speed is 250 Kmph then the pulse width will be____milli sec in GG Tronics SSDAC ( )
a. 2 b. 2.2 c. 2.4 d. 2.6

37) Frequency of scanning by processor for PD signal is___times for every wheel in GG Tronics SSDAC ( )
a. 4 b. 5 c. 6 d. 7

38) Under no wheel TX & RX signals will be_____out of phase in GG Tronics SSDAC ( )
a. 90 Degrees b. 120 Degrees c. 180 Degrees d. 360 Degrees

39) Under wheel condition RX Phase signal voltage will be_____ in GG Tronics SSDAC ( )
a. < 1 v b. < 1.5 v c. < 1.8 v d. <2 v

40) Start Fed CPU-1 will have an address of____in GG Tronics SSDAC ( )
a. 01 h b. 02 h c. 03 h d. 04 h

41) Start Fed CPU-2 will have an address of____in GG Tronics SSDAC ( )
a. 01 h b. 02 h c. 03 h d. 04 h

42) End Fed CPU-1 will have an address of____in GG Tronics SSDAC ( )
a. 01 h b. 02 h c. 03 h d. 04 h

43) End Fed CPU-2 will have an address of __ _ in GG Tronics SSDAC ( )
a. 01 h b. 02 h c. 03 h d. 04 h

44) Start Fed configuration is___in GG Tronics SSDAC ( )
a. 01 h b. 02 h c. 03 h d. 04 h

45) End Fed configuration is___in GG Tronics SSDAC ( )
a. 01 h b. 02 h c. 03 h d. 04 h

46) CPU address has to set from links_____to_____for GG Tronics SSDAC ( )
a. LK 17 – LK 10 b. LK 18 – LK 11
c. LK 25 – LK 18 d. LK 26 – LK 17

47) System configuration has to set from links___to___for GG Tronics SSDAC ( )
a. LK 17 – LK 10 b. LK 18 – LK 11
c. LK 25 – LK 18 d. LK 26 – LK 17

48) The RX signal voltage is___when there is no wheel in GG Tronics SSDAC ( )
a. 900 mv – 1.2 v b. 800 mv – 1.2 v
c. 1 v – 1.2 v d. 1.2 v – 1.4

49) Wheel main & Wheel sec voltage will drop to_____volts when wheel is passing in GG Tronics SSDAC ( )
a. < 100 mv b. < 120 mv c. < 140 mv d. < 160 mv

50) SUP Level voltage is_____in GG Tronics SSDAC when there is no wheel ( )
a. 4 – 5 v b. 3 – 3.9 v c. 2 – 3 v d. 1 – 2 v

51) What are the TX frequencies used for Eldyne make MSDAC ( )
a. 21KHZ & 23 KHZ b. 21KHZ & 25 KHZ
c. 31KHZ & 33 KHZ d. 28KHZ & 30.6 KHZ

52) Power consumption for each DP in Eldyne make SSDAC ( )
a. 11.5 w b. 55 w c. 95 w d.135 w

53) In Eldyne Max power consumption for ACE 2 - 10 DP's is ( )
a. 11.5 w b. 55 w c. 95 w d.135 w

54) In Eldyne Max power consumption for ACE 2 - 26 DP's is ( )
a. 11.5 w b. 55 w c. 95 w d.135 w

55) In Eldyne Max power consumption for ACE 2 - 42 DP's is ( )
a. 11.5 w b. 55 w c.95 w d.135 w

56) In Eldyne Range of voltage at DP's is_____ ( )
a. 54 to 120V DC b. 21.5 to 28.8 V AC
c. 30 to 40 V DC d. 36 to 52 V DC

57) In Eldyne maximum communication distance between ACE and DP is_____KM with 60 V DC centralized power supply and 0.9 mm Quad cable ( )
a. 1.5 KM b. 4.2 KM c. 8 KM d.16 KM

58) In Eldyne maximum communication distance between ACE and DP is_____KM with 110 V DC centralized power supply and 0.9 mm Quad cable ( )
a. 1.5 KM b. 4.2 KM c. 8 KM d.16 KM

59) In Eldyne maximum communication distance between ACE and DP is _____ KM with 60 / 110 V DC local power supply and 0.9 mm Quad ( )
a. 1.5 KM b. 4.2 KM c. 8 KM d.16 KM

60) In Eldyne the ACE deals with maximum of_____DP's ( )
a. 10 b. 22 c. 32 d. 40

61) In Eldyne DP's address setting is provided in_____board ( )
a. Digital board b. Analog board c. Mother board d. none

62) In Eldyne MESSAB adjustment is done in_____board ( )
a. Digital board b. Mother board c. Analog board d. none

63) In Eldyne analog wheel pulse is known as_____ ( )
a. MESSAB b. RADIMP c. PEGUE d. None

64) In Eldyne digital wheel pulse is known as_____ ( )
a. MESSAB b. RADIMP c. PEGUE d. None

65) In Eldyne Digital board is also known as _____ board ( )
a. ISDN board b. Communication board
c. CPU d. Mother board

66) In Eldyne Digital board transmits Data to ACE using ___ protocol ( )
a. ISDN b. TCPIP c. Communication d.FSK

67) In Eldyne, power supply unit occupies_____&_____slots of 1st basic sub rack ( )
a. 1st and 4th b. 1st and 2nd c. 1st and 3rd d. 3rd and 4th

68) In Eldyne power supply unit generates_____&_____supplies ( )
a. 5V DC & 12V DC b. 5V, 12V, 24V & Iso 15V DC
c. 5V, +12V, -12V, +18V, +24V DC d. 5V,+12V, -12V, +24V DC

69) In Eldyne serial I / O board receives data from_____ ( )
a. Track side equipment b. PDCU
c. ACE d. Parallel I / O board

70) In Eldyne each serial I / O board assigned to maximum_____number of detection points ( )
a. 1 b. 2 c. 3 d. 4

71) Track occupancy information is provided by_____board in Eldyne. ( )
a. Serial I / O board b. Parallel I / O board c. Digital board d. CPU board

72) In Eldyne each parallel I / O module outputs____relay contacts ( )
a. 1 b. 2 c. 3 d. 4

73) In Eldyne manual local reset can be done by using a key switch mounted on the front panel of the_____module ( )
a. Serial I / O b. Parallel I / O c. Power supply d. CPU board

74) In Eldyne Rail contacts (sk) are fixed with_____bolts ( )
a. M8 b. M10 c. M12 d. M14

75) In Eldyne spanner used to tight the rail contacts is_____ ( )
a. 13mm b. 14mm c. 12mm d. 10mm

76) In Eldyne_____torque is to be applied for fixing of Rail contacts ( )
a. 25 Nm b. 45 Nm c. 35 Nm d. 15 Nm

77) In Eldyne MESSAB adjustment is done with_____potentiometer ( )
a. R1 b. R2 c. R3 d. R4

78) PEGUE adjustment in Eldyne is done with_____potentiometer ( )
a. R1 b. R2 c. R3 d. R4

79) In Eldyne drill bit size for making holes of Rail contacts ( )
a. 13mm b. 14mm c. 12mm d. 11mm

80) In Eldyne_____number of wires are connected between PDCU and track side electronic equipment ( )
a. 2 b. 3 c. 4 d. 5

81) In Eldyne serial interface of diagnostic PC is connected to_____ ( )
a. Left side PC b. Right side PC c. Both d. None

82) In Eldyne ethernet interface of diagnostic PC is connected to____ ( )
a. Left side PC b. Right side PC c. Both d. None

83) Eldyne make rail contacts will monitor up to a train speed of_____kmph ( )
a. 250 kmph b.300 kmph c. 350 kmph d. 380 kmph

84) In Eldyne recttifiedRX1 voltage (MESSAB1) without dummy wheel is_____( )
a. + 80 --------- + 1000 mV b. – 80 ---------- –1000 mV
c. + 40 ---------- + 1000 mV d. – 40 ---------- –1000 mV

85) In Eldyne rectifiedRX1 voltage (MESSAB1) with dummy wheel is_____ ( )
a. + 80 --------- + 1000 mV b. – 80 ---------- –1000 mV
c. + 40 ---------- + 1000 mV d. – 40 ---------- –1000 mV

86) In Eldyne transmitter coil SK , voltage is_____ ( )
a. 40 to 85V AC b. 30 to 40V AC c. 60 to 80V AC d.30V AC

87) Superimposed power and data line are connected to_____terminals at EAK in Eldyne ( )
a. 3, 13 b. 2, 12 c.1, 10 d. 2, 3

88) _____ &_____terminals are shorted if same pair of conductors is used for super imposed data and power supply is used to EAK in Eldyne ( )
a. 2 & 1, 12 & 11 b. 2 &1, 13 & 3 c. 3 & 4, 12 & 11 d. 3 & 4, 13 & 3

89) In Eldyne if separate power supply is used for installation at EAK _____ terminals are used for communication link ( )
a. 3 & 13 b. 2 & 1 c. 1 & 11 d. 3 & 4

90) In Eldyne, if separate power supply is used for installation at EAK _____ terminals are used for connecting power supply ( )
a. 3 & 13 b. 2 & 1 c. 1 & 11 d. 3 & 4

91) The EAK has to be connected to the earth with a copper cable of minimum _____ sq. mm in Eldyne ( )
a. 25 sq.mm. b. 16 sq.mm. c. 10 sq.mm. d. 6 sq.mm.

92) In Eldyne the EAK housing has to be earthed with the earth resistance of _____ohm ( )
a. 1 b. 10 c. Less than 4 d. 5

93) _____ diode is provided across Vital Relay in Eldyne ( )
a. IN 4007 b. IN 2804 c. IN 5408 d. BY 127

94) One parallel I / O board monitors_____track sections in Eldyne ( )
a. 1 b. 2 c. 3 d. 4

95) In Eldyne PDCU is_____between outdoor equipment (DP) and indoor equipment (ACE) ( )
a. Interface b. Interconnection c. Mediator d. None

96) In Eldyne_____mA fuse is provided inside PDCU ( )
a. 315 mA b. 680 mA c. 1A d. 2A

97) In Eldyne resetting pulse duration is_____sec ( )
a. 3 sec b. 4 sec c. 5 sec d. 2 sec

98) In Eldyne_____mA fuse is provided in Reset box ( )

a. 500 mA b. 315 mA c. 680 mA d. 1 A

99) In Eldyne fuse provided in Reset box is of_____type ( )

a. Fast blown glass fuse b. Slow blown glass fuse

c. HRC fuse d. Knife edge fuse

100) In Eldyne dummy wheel should be set at_____mm for testing ( )

a. 20mm b. 30mm c. 40mm d. 50mm

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
d	a	c	c	d	d	c	b	c	d
11	12	13	14	15	16	17	18	19	20
b	a	d	c	c	a	c	d	a	d
21	22	23	24	25	26	27	28	29	30
a	b	a	a	a	d	d	b	b	d
31	32	33	34	35	36	37	38	39	40
d	d	c	d	d	b	d	c	a	a
41	42	43	44	45	46	47	48	49	50
b	c	d	a	b	a	c	a	a	a
51	52	53	54	55	56	57	58	59	60
d	a	b	c	d	a	a	b	c	c
61	62	63	64	65	66	67	68	69	70
c	c	a	b	a	a	a	a	a	b
71	72	73	74	75	76	77	78	79	80
b	b	b	a	a	a	b	a	a	a
81	82	83	84	85	86	87	88	89	90
a	b	d	a	b	a	a	a	a	c
91	92	93	94	95	96	97	98	99	100
a	c	a	a	a	a	a	a	b	c

ST-25a : SINGLE LINE TOKEN BLOCK INSTRUMENT

1) POH of single line token block instrument is ____ ( )
   a. 10 yrs b. 7 yrs c. 12 yrs d. none

2) Total capacity of tablets in token block instrument _____ ( )
   a. 30 b. 36 c. 40 d. 46

3) Total capacity of balls in token block instrument _____ ( )
   a. 30 b. 36 c. 40 d. 46

4) Block earth resistance should not be more than____ohms ( )
   a. 5 b. 10 c. 15 d. 20

5) Neale's ball token Block Instrument is suitable for_____ ( )
   a. Double line section b. Single line section
   c. Automatic territory d. none of above

6) Total number of token configurations in NT Block instrument is_____ ( )
   a. 5 b. 4 c. 3 d. 2

7) NT Block instrument is_____ ( )
   a. Co-operative type b. Non-Cooperative type
   c. Both a & b d. none

8) NT Block instrument can be used in_____ ( )
   a. Only in Non-RE b. Only in RE
   c. Both in Non-RE & RE d. none

9) No token indicator is available in_____Block instrument ( )
   a. Neale's Ball Token b. Neale's Tablet Token
   c. PTJ d. Daido

10) Authority to proceed is given to ( )
   a) Loco pilot b) Guard c) ASM d) Station manager

11) Certificate of competency issued for block instrument is valid for ( )
   a) 2 years b) 3 years c) 4 years d) 5 years

12) Bell code for call attention is ( )
   a) 2 beats b) 1 beat c) 3 beats d) 4 beats

13) Bell code for "is line clear" is ( )
   a) 1 beats b) 2 beats c) 3 beats d) 4 beats

14) Bell code for call train entered block section is ( )
   a) 2 beats b) 1 beats c) 3 beats d) 4 beats

15) Bell code for closing block section ( )
   a) 2 beats b) 1 beats c) 3 beats d) 4 beats

16) Bell code for testing the block instrument is ( )
   a) 8 beats b) 10 beats c) 13 beats d) 16 beats

17) Block section is controlled by ( )
a) SM of rear station b) SM of advance station
c) a and b d) none

18) Equipment provided to control the movement of trains between the adjacent stations is ( )
a) Point machine b) Block instrument c) IPS d) EI

19) Token block handle has_____positions ( )
a) 1 b) 2 c) 3 d) 4

20) Minimum line wires required for token block instrument is ( )
a) 1 b) 2 c) 3 d) none

21) Maximum line wires required for token block instrument is ( )
a) 1 b) 2 c) 3 d) none

22) Total number of lock coils in NT block is ( )
a) 1 b) 2 c) 3 d) none

23) TCF/TGT lock coils are provided in ( )
a) SGE b) Daido c) Token block d) all

24) TCF coil must energise for turining the block handle from ( )
a) LC to TCF b) LC to TGT c) TCF TO LC d) a and c

25) TCF coil must energise for turining the block handle from ( )
a) TGT to LC b) LC to TCF c) TCF TO LC d) all

26) TGT coil must energise for turining the block handle from ( )
a) TGT to LC b) LC to TCF c) LC to TGT d) TCF to LC

27) TGT coil must energise for turining the block handle from ( )
a) TGT to LC b) LC to TCF c) TCF TO LC d) none

28) Token can be extracted when the block handle is turned from ( )
a) LC to TGT b) LC to TCF c) TGT to LC d) TCF to LC

29) Token cannot be extracted when the block handle is turned from ( )
a) LC to TCF b) TGT to LC c) TCF to LC d) all

30) Block handle cannot be turned to TGT when there ( )
a) is only one token b) are no tokens c) are 36 tokens d) are 40 tokens

31) Balancing of tokens must be done when the number of tokens falls below ( )
a) 2 b) 4 c) 6 d) 8

32) In a pair of inter connected instruments, both shall be ( )
a) Normal polarity b) Reverse polarity c) of opposite polarity d) none

33) In a pair of inter connected instruments, both shall be ( )
a) Ball token b) tablet token c) of opposite polarity d) all

34) when the number of tokens falls below 6 ( )
a) Block working must be suspended b) Block working need not be suspended
c) Token balancing must be done d) b and c

35) Block instrument must be ( )
a) Robust in construction b) approved by CRS
c) approved by CSTE d) a and b

36) Block Handle can turned to any position when --- ( )
a) Only when TCF coil is energised b) Only when TGT coil is energized c) Both when TCF and TGT coils energise d) none

37) Coil resistance of Galvo coil in Token block is____ ( )
a) 110 ohm b) 130 ohm c) 145 ohm d) 150 ohm

38) Coil resistance of PR relay is ( )
a) 67 ohm b) 77 ohm c) 80 ohm d) 87 ohm

39) Resistance of TCF lock coil is ( )
a) 17 ohm b) 25 ohm c) 28 ohm d) 30

40) Resistance of TGT lock coil is ( )
a) 17 ohm b) 25 ohm c) 28 ohm d) 30

41) Resistance of Bell coil in token block is ( )
a) 25 ohm b) 28 ohm c) 80 ohm d) 160 ohm

42) Minimum current drawn by bell coil in token block is ( )
a) 17 to 20 ma b) 45 ma c) 60 ma d) 80 ma

43) Current drawn by TCF coil in token block is ( )
a) 17ma b) 25 ma c) 110ma d) 160 ma

44) Current drawn by TGT coil in token block is ( )
a) 17ma b) 25 ma c) 110ma d) 160 ma

45) Current drawn by Galvo is ( )
a) 15 to 25 ma b) 20 to 25 ma c) 20 to 30 ma d) 60 to 80 ma

46) Voltage of TCF lock coil in neale's ball token is ( )
a) 3.5v b) 4v c) 4.5v d) 5.5v

47) Voltage of TGT lock coil in neale's ball token is ( )
a) 3.5v b) 4v c) 4.5v d) 5.5v

48) TGT contact will make when the block handle is in ( )
a) TCF position b) TGT position c) LC position d) all

49) PR relay used in token block is of____position ( )
a) 1 position b) 2 position c) 3 position d) none

50) PR relay in token block shall be overhauled ( )
a) along with the block instrument b) once in 5 yrs
c) once in 7 yrs d) 12 yrs

51) Jerking contact will break and make when the handle is turned from ( )
a) LC to TCF b) LC to TGT c) TGT to LC d) all

52) Momentary break in line circuit during operation of handle is caused due ( )
a) Safety catch b) TCF/TGT lock coils c) Inter stroke interrupter d) all

53) Polarity of line current is changed due to ( )
a) safety catch b) commutator c) jerking contact d) a and c

54) _____prevents declutching of commutator shaft from spring clutch shaft while the block handle is turned from LC to TCF/TGT ( )
a) safety catch b) resting contact
c) jerking contact d) inter stroke interrupter

55) ___is provided for the purpose of safety only ( )
a) resting contact b) jerking contact c) inter stroke interrupter d) safety catch

56) Provision of____will facilitate that other end block handle is turned ( )
a) Resting contact b) Inter stroke interrupter
c) spring clutch shaft d) commutator shaft

57) Safety catch rests on ( )
a) Jerking contact b) commutator shaft
c) spring clutch shaft d) notches of the rack

58) ____can be locked in any of the 3 positions ( )
a) bottom handle b) top handle c) TCF/TGT lock coils d) none

59) Different token configurations are provided to ( )
a) achieve safety b) increase section capacity
c) achieve flexibility d) all

60) Bell coil will always be in series with any one of the _____coil ( )
a) TCF lock coil b) TGT lock coil c) Galvo coil d) a and b

61) TCF coil will energize_____for one complete train operation ( )
a) one time b) two times c) three times d) 4 times

62) TGT coil will energize_____for one complete train operation ( )
a) one time b) two times c) three times d) 4 times

63) TCF coil has to energize for_____operations ( )
a) 1 b) 2 c) 3 d) 4

64) Force drop arrangement is provided for ( )
a) safety catch b) commutator shaft
c) spring clutch shaft d) TCF/TGT locks

65) Which of the following is incorrect in respect of TCF/TGT locks ( )
a) their resistance is same b) they are identical
c) their working current is same d) units with armature can be interchanged

66) The lock replacer disc has_____conical projections ( )
a) 2 b) 3 c) 4 d) 5

67) The lock replacer disc has conical projections named as ( )
a) A,B,C and E b) A,B,C and D c) B,C,D and E d) A,E,B and D

68) Fourth projection_____is longer than other three ( )
a) D b) C c) B d) A

69) Prolonged beat is required for turning the block handle from ( )
a) TCF to LC b) LC to TCF c) TGT to LC d) LC to TGT

70) Token selector is available in ( )
a) Ball token b) Tablet token c) a and b d) none

71) When block instrument SM's key is taken out ( )
a) O/G bell beats will fail b) I/C bell beats will fail
c) a and b d) none

72) When block instrument SM's key is taken out ( )
a) O/G bell beats will fail b) I/C bell beats will fail
c) bottom handle is locked d) a and c

73) Insertion of wrong class of token and closing the block section is prevented by( )
a) safety catch b) spigot c) commutator d) top handle

74) Shape of the spigot will correspond to the ( )
a) Polarity of the instrument b) diameter of the token
c) hole configuration on the token d) all

75) When block handle is turned from LC to TCF or TGT_____will rotate ( )
a) spring clutch shaft b) commutator shaft
c) a and b d) none

76) Four brass segments are mounted on insulated curved Bakelite segment which is fixed to ( )
a) commutator shaft b) spring clutch shaft c) safety catch d) jerking contact

77) There are_____number of commutator springs ( )
a) 1 b) 2 c) 3 d) 4

78) In ball token jerking contact segment is fixed on ( )
a) commutator shaft b) spring clutch shaft
c) safety catch d) block handle

79) The polarity of line current depends on position of ( )
a) jerking contact b) safety catch
c) commutator d) rest contact

80) No Token indicator is available in ( )
a) ball token instrument b) tablet token instrument
c) a and b d) none

81) Even though all tokens are exhausted, the block handle can be turned from ( )
a) LC to TGT b) LC to TCF c) TGT to LC d) b and c

82) Following parts are proved in local circuit of Token block ( )
a) TCF coil b) TGT coil c) Bell coil d) all

83) Following is proved in line circuit of Token block ( )
a) TCF/TGT coil b) Galvo c) bell coil d) none

84) Following is proved in line circuit of Token block ( )
a) TCF/TGT coil b) Jerking contact c) bell coil d) none

85) Following is proved in line circuit of Token block ( )
a) TCF coil b) Jerking & rest contact
c) bell coil d) TGT coil

86) Following parts are proved in local circuit ( )
a) TCF/TGT coil b) PR relay contact
c) Bell coil d) all

87) Block handle will not turn to_____position when tokens are exhausted ( )
a) LC b) TCF c) TGT d) all

88) Turning of handle without token in the instrument is prevented by ( )
a) no token lock b) no token indicator
c) Spigot d) lock replacer disc

89) no token lock prevents turning of handle to TGT when ( )
a) tokens are 2 b) tokens are 4 c) tokens are 6 d) tokens exhaust

90) ___will isolate telephone from block circuit ( )
a) resistor b) condenser c) diode d) transistor

91) Normal polarity instrument connects line battery_____on line when plunger is pressed in line closed condition ( )
a) positive and negative b) negative c) positive d) none

92) Reverse polarity instrument connects line battery_____on line when plunger is pressed in line close condition ( )
a) positive and negative b) negative c) positive d) none

93) Normal polarity instrument connects line battery_____on line when plunger is pressed in TCF condition ( )
a) positive and negative b) negative c) positive d) none

94) Reverse polarity instrument connects line battery_____on line when plunger is pressed in TGT condition ( )
a) positive and negative b) negative c) positive d) none

95) Normal polarity instrument requires__on line for turning block handle to TGT( )
a) positive b) negative c) positive or negative d) none

96) Normal polarity instrument requires__ on line for turning block handle to TCF( )
a) positive b) negative c) positive or negative d) none

97) Reverse polarity instrument requires__ on line for turning block handle to TGT( )
a) positive b) negative c) positive or negative d) none

98) Reverse polarity instrument requires__ on line for turning block handle to TCF( )
a) positive b) negative c) positive or negative d) none

99) position of the commutator changes only when ( )
a) token inserted b) token not inserted
c) token inserted & plunger pressed d) none

100) _____statement is correct ( )
a) separate battery for each block instrument
b) block earth can be common
c) common battery for each block instrument
d) POH of block is 12 yrs

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	c	b	b	b	a	a	c	a	a
11	12	13	14	15	16	17	18	19	20
c	b	b	c	d	d	c	b	c	a
21	22	23	24	25	26	27	28	29	30
b	b	c	d	d	c	d	a	d	b
31	32	33	34	35	36	37	38	39	40
c	c	d	c	d	d	d	b	c	c
41	42	43	44	45	46	47	48	49	50
a	d	d	d	a	c	c	b	c	a
51	52	53	54	55	56	57	58	59	60
d	c	b	a	d	b	c	a	a	d
61	62	63	64	65	66	67	68	69	70
c	a	c	d	d	c	b	a	d	a
71	72	73	74	75	76	77	78	79	80
a	d	b	c	c	a	d	b	c	a
81	82	83	84	85	86	87	88	89	90
d	d	b	b	b	d	c	a	d	b
91	92	93	94	95	96	97	98	99	100
c	b	b	c	a	b	b	a	c	a

ST-25b : SINGLE LINE TOKEN LESS BLOCK INSTRUMENT

1) The Normal line working current of PTJ make push button type single line token less block instrument is_____ ( )
   a. 17 mA b. 25 mA c. 60 mA d. 110 mA

2) The Normal operating voltgae (local supply) of PTJ make push button type single line token less block instrument is_____DC ( )
   a. 12v b. 24v c. 60v d. 110v

3) In PTJ make PB type block instt., the line supply will be____ ( )
   a. 24v DC b. 30v DC c. 36v DC d. 24v DC + line drop

4) PTJ make Push Button type S/line tokenless block instt. is suitable in _ area ( )
   a. only Non-RE b. only RE c. both RE & non-RE d. none

5) Push Button type S/line block instt. is_____type for normal train operations ( )
   a. non-cooperative b. co-operative c. both d. none

6) Push Button type S/line block instt. is_____type for cancellation operations ( )
   a. non-cooperative b. co-operative c. both d. none

7) Push Button type 'PTJ' make S/line tokenless block instt. POH is_____ ( )
   a. once in 7 years b. once in 10 years c. not required d. none

8) Single line push button PTJ block instrument working principle is_____ ( )
   a. AC impulse code b. DC impulse code
   c. AC & DC impulse codes d. Frequency modulated

9) TOL acknowledgement relay in IRS-PTJ block_____ ( )
   a. TOLTR b. TOLAR c. ASTR d. CTR

10) One line clear - one train is ensured in the S/L T/L PTJ block instrument by ( )
   a. ASCR b. CTR c. ASTR d. ASR

11) When BCB button is pressed_____polarity of line supply is extended on line-1 in PTJ block ( )
   a. + ve & – ve b. + ve c. – ve d. none

12) TCF code in PTJ make push button block instrument is_____ ( )
   a. –ve, +ve, + ve b. –ve, –ve, +ve
   c. –ve, –ve, –ve d. –ve , +ve, –ve

13) TGT code in PTJ make push button block instrument is_____ ( )
   a. –ve, +ve, + ve b. –ve, –ve, +ve
   c. –ve, –ve, –ve d. –ve , +ve, –ve

14) TOL code in PTJ make push button block instrument is_____ ( )
   a. –ve, +ve, + ve b. –ve, –ve, +ve
   c. –ve, –ve, –ve d. –ve , +ve, –ve

15) Line closed code in PTJ block instrument is_____ ( )
a. –ve, +ve, + ve b. –ve, –ve, +ve
c. –ve, –ve, –ve d. –ve , +ve, –ve

16) TOL buzzer sounds at train_____station in PTJ make PB type block instt. ( )
a. sending end b. receving end c. both ends d. none

17) Line circuit relays are of____in PTJ make PB type block instt. ( )
a. QBCA1 b. QBA1 c. QB3 d. QS3

18) In PTJ make PB type block instt., SNR indication lits____ ( )
a. with SNR relay front contact b. with SNR relay back contact
c. without any contacts of SNR relay d. none

19) In PTJ make PB type block instt., normally in line closed condition all the relays will be in____ condition ( )
a. dropped b. picked up c. a & b d. none

20) In PTJ make PB block instt.,____relay picks up in line circuit of train operation( )
a. CRR(N)/(R) b. TCKR c. a & b d. none

21) In PTJ make PB type block instt.,____relay picks up in external circuit ( )
a. ASTR b. SNR c. TAR d. all

22) In PTJ make PB type block instt.,____relay picks up in line circuit ( )
a. CRR(N) b. CRR(R) c. TCKR d. all

23) TCFR & TGTR are of___type relays are provided in PTJ make PB type block ( )
a. QB3 b. QN1 c. QL1 d. none

24) TOLAR & TAR are of___type relays are provided in PTJ make PB type block ( )
a. QB3 b. QN1 c. QL1 d. none

25) CRR(N)/(R) & TCKR are of___type relays are provided in PTJ make PB type single line tokenless block instrument ( )
a. QB3 b. QN1 c. QL1 d. none

26) In PTJ make PB type block instt., line circuit gets____when RCKR picks up ( )
a. disconnected b. connected c. both d. none

27) In PTJ make PB type block instt., line circuit gets____when RCKR drops ( )
a. disconnected b. connected c. both d. none

28) In PTJ make PB type block instt., code progression relays are____ ( )
a. LR, LPR b. CTR, CTPR c. RCKR, RDR d. 1CR, 2CR, 3CR

29) In P/Button type block inst.,___will pick up at both ends of coding ( )
a. TCKR b. CRR(N)/(R) c. LR, LPR d. none

30) In P/Button type block inst.,___will pick up at code transmission end only ( )
a. TCKR b. CRR(N)/(R) c. LR, LPR d. none

31) In P/Button type block inst.,___will pick up at code reception end only ( )
a. TCKR b. CRR(N)/(R) c. LR, LPR d. none

32) In P/Button type block inst.,___will pick up at code transmission end only ( )
a. NTR/PTR, CTR, CTPR b. N2R/P2R, RCKR, RDR
c. 1CR, 2CR, 3CR, LR, LPR d. none

33) In P/Button type block inst.,___will pick up at code reception end only ( )
a. NTR/PTR, CTR, CTPR b. N2R/P2R, RDR, RCKR
c. 1CR, 2CR, 3CR, LR, LPR d. none

34) In P/Button type block inst.,___will pick up at both ends of coding ( )
a. NTR/PTR, CTR, CTPR b. N2R/P2R,RDR, RCKR
c. 1CR, 2CR, 3CR, LR, LPR d. none

35) Once SM's key is taken out in push button block instrument___is not possible ( )
a. TOL code transmission b. TOL code reception
c. incoming bell beats d. out going bell beats

36) In P/Button type block inst., shunt key can be extracted only in___position ( )
a. TCF or TCF+TOL b. TGT or TGT+TOL
c. LINE CLOSED or TGT+TOL d. LINE COSED or TGT

37) Shunt key extraction circuit is in_____circuit in push button block instrument ( )
a. line b. local c. external d. none

38) ____Button is common for line closed or line clear operation in PB block inst. ( )
a. LCB b. TGB c. BCB d. CANCEL

39) TOL code transmission can be suppressed temporarily by train_____end in PB block inst. ( )
a. sending b. receiving c. both d. none

40) Separate power supply is_____for telephone circuit in PB block inst. ( )
a. not required b. required c. both d. none

41) In PB block inst., minimum line wires required____to connect both blocks ( )
a. 1 b. 2 c. 3 d. none

42) For normal train operations___block inst. is fully non-cooperative type ( )
a. push button type b. handle type Daido c. a & b d. none

43) For cancellation operations___block inst. is fully co-operative type ( )
a. push button type b. handle type Daido c. a & b d. none

44) Separate shunt key is EKT provided externally for___block inst. ( )
a. push button type b. handle type Daido c. both d. none

45) Common cancellation control is provided in____block inst. ( )
a. push button type b. handle type Daido c. both d. none

46) In___block inst., separate power supply is not required for Telephone circuit. ( )
a. push button type b. handle type Daido c. both d. none

47) Separate cancellation controls are provided in___block inst. ( )
a. handle type Daido b. push button type c. both d. none

48) Shunt key is provided physically inbuilt on front side of___block inst. ( )
a. push button type b. handle type Daido c. both d. none

49) For normal & cancellation operations___block inst. is fully co-operative type ( )
a. handle type Daido b. push button type c. both d. none

50) Slip siding key can be extracted when Push Button block inst. is in___position( )
a. LINE CLOSED b. TCF c. TGT d. none

51) S/L Handle type Daido B/I carrier frequencies are_____ ( )
a. 65 Hz & 85 Hz b. 1800 Hz & 2700 Hz
c. 21 KHz & 23 KHz d. 5 KHz

52) Tx & Rx unit's carrier frequencies of Daido block at same station should be _ ( )
a. different b. same c. both d. none

53) Tx unit of one station & Rx unit of other end station carrier frequencies of Daido block instrument should be____ ( )
a. different b. same c. both d. none

54) S/L Handle type Daido B/I modulated frequencies are_____ ( )
a. 65 Hz & 85 Hz b. 1800 Hz & 2700 Hz
c. 21 KHz & 23 KHz d. 5 KHz

55) In S/L Handle type Daido B/I,____modulated frequency is required for turning B/H from Line Closed to Train Going To position ( )
a. 65 Hz b. 85 Hz c. 1800 Hz d. 2700 Hz

56) In S/L Handle type Daido B/I,_____modulated frequency is required for turning B/H from Line Closed to Train Coming From position ( )
a. 65 Hz b. 85 Hz c. 1800 Hz d. 2700 Hz

57) In S/L Handle type Daido B/I,_____modulated frequency is required for turning B/H from Train Coming From to Line Closed position ( )
a. 65 Hz b. 85 Hz c. 1800 Hz d. 2700 Hz

58) In S/L Handle type Daido B/I,_____modulated frequency is required for turning B/H from Train Going Towards to Line Closed position ( )
a. 65 Hz b. 85 Hz c. 1800 Hz d. 2700 Hz

59) In S/L Handle type Daido B/I,_____modulated frequency is required for Auto TOL code transmission ( )
a. 65 Hz b. 85 Hz c. 1800 Hz d. 2700 Hz

60) In S/L Handle type Daido B/I,___relay ensures one Line Clear One Train ( )
a. TELR b. TOLR c. TRSR d. PBPR

61) In S/L Handle type Daido B/I,_____relay picks up at the same station when PB1 & PB2 are pressed simultaneously ( )
a. BLR b. NR c. PBPR d. none

62) In S/L Handle type Daido B/I,_____relay picks up at the other end station when PB1 & PB2 are pressed simultaneously. ( )
a. BLR b. NR c. PBPR d. none

63) In S/L Handle type Daido B/I,_____relay picks up at the OTHER station when PB1 is pressed for bell beat exchange ( )
a. BLR b. NR c. PBPR d. none

64) In S/L Handle type Daido B/I,_____relay picks up at the other end station when PB1 is pressed for bell beat exchange ( )
a. BLR b. NR c. PBPR d. none

65) In S/L Handle type Daido B/I,_____relay picks up at the same station when PB1 is pressed for TOL code acknowledgement ( )
a. BLR b. NR c. PBPR d. none

66) In S/L Handle type Daido B/I,_____relay picks up at the other end station when PB1 is pressed for TOL code acknowledgement ( )
a. BLR b. NR c. PBPR d. none

67) In Daido B/I, The carrier frequencies of TX & RX units at one end should be. ( )
a) same b) different c) a & b d) none

68) In Daido Block Inst,____polarity extends on line when PB1 is pressed for TOL code acknowledgement ( )
a. + ve b. – ve c. both d. none

69) In Daido Block Inst,____polarity extends on line when PB1 is pressed for bell beat exchange signals ( )
a. + ve b. – ve c. both d. none

70) In Daido Block Inst,____polarity extends on line when PB1 & PB2 are pressed simultaneously. ( )
a. + ve b. – ve c. both d. none

71) In Daido Block Inst, TOL buzzer appears at train_____end ( )
a. sending b. receiving c. both d. none

72) In Daido Block Inst, shunt key can be extracted in_____position ( )
a. TCF or (TCF + TOL) b. TGT or (TGT + TOL)
c. LINE CLOSED or (TCF + TOL) d. LINE COSED or TGT

73) The normal line working current in Daido block instrument is_____ ( )
a. 17 mA b. 25 mA c. 60 mA d. 110 mA

74) The Normal operating voltage (local supply) of handle type FM coded DAIDO single line token less block instrument is_____DC ( )
a. 12v b. 24v c. 60v d. 110v

75) In Daido block instt., the line supply will be____ ( )
a. 24v DC + line drop b. 30v DC c. 36v DC d. 24v DC

76) S/line token less Daido block instt. is suitable in_____area ( )
a. both RE & non-RE b. only non- RE c. only RE d. none

77) S/line token less Daido block instt. is_____type for normal train operations ( )
a. non- cooperative b. cooperative c. both d. none

78) S/line token less Daido block instt. is_____for cancellation operations ( )
a. non-cooperative b. cooperative c. both d. none

79) S/line token less Daido block instrument POH is_____ ( )
a. once in 10 years b. once in 7 years c. both d. none

80) S/line token less Daido block instrument working principle is_____ ( )
a. AC impulse code b. DC impulse code
c. AC & DC impulse codes d. Frequency modulated

81) S1 switch is used for____cancellation operation in Daido block instrument ( )
a. normal b. push back c. both d. none

82) S2 switch is used for____cancellation operation in Daido block instrument ( )
a. normal b. push back c. both d. none

83) In Daido block inst., time release indicator operates when___operated ( )
a. S1 switch b. S2 switch c. both d. none

84) Separate power supply is_____for telephone circuit in Daido block inst. ( )
a. not required b. required c. both d. none

85) In Daido block inst.,____is pressed for bell beat exchange signals ( )
a. PB1 b. PB2 c. both d. none

86) In Daido block inst.,____is pressed for TOL code acknowledgement ( )
a. PB1 b. PB2 c. both d. none

87) In Daido block inst.,____is pressed for extending co-operation ( )
a. PB1 b. PB2 c. both d. none

88) In Daido block inst.,____relay picks up in a line circuit ( )
a. BLR b. NR c. a or b d. none

89) In Daido block inst.,____relay picks up in local circuit ( )
a. 1R b. 1TPR c. both d. none

90) BLR & NR are of___type relays provided in Daido block inst. ( )
a. QB3 b. QNA1 c. QL1 d. QBA1

91) 1R & 1TPR are of___type relays provided in Daido block inst. ( )
a. QB3 b. QNA1 c. QL1 d. QBA1

92) In Daido block inst., TOL indicator is of___type indicator ( )
a. magnetic latch b. polarized c. neutral d. none

93) In Daido block inst., time release indicator is of___type indicator ( )
a. magnetic latch b. polarized c. neutral d. none

94) In Daido block inst., galvo is of___type indicator ( )
a. magnetic latch b. polarized c. neutral d. none

95) In Daido block inst., total line circuits are____ ( )
a. 2 b. 3 c. 4 d. none

96) In Daido block inst., total power supplies required are____ ( )
a. 2 b. 3 c. 4 d. none

97) In Daido block inst., minimum line wires required to connect in non-RE is___( )
a. 1 b. 2 c. 3 d. none

98) In Daido block inst., minimum____of line wires required to connect in RE___( )
a. 1 pair b. 2 pairs c. 3 pairs d. none

99) When SM's key is removed in Daido block inst.,_____possible ( )
a. for extending co-operation b. incoming bell beats
c. for extraction of shunt key d. S1 or S2 operation

100) When SM's key is removed in Daido block inst.,_____possible ( )
a. auto TOL code transmission b. auto TOL code reception
c. incoming bell beats d. all

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
c	b	d	a	a	b	c	b	b	d
11	12	13	14	15	16	17	18	19	20
b	d	b	c	a	b	c	c	a	c
21	22	23	24	25	26	27	28	29	30
d	d	c	c	a	a	b	d	c	a
31	32	33	34	35	36	37	38	39	40
b	a	b	c	d	c	b	c	a	b
41	42	43	44	45	46	47	48	49	50
a	a	c	a	a	b	a	b	a	c
51	52	53	54	55	56	57	58	59	60
b	a	b	a	a	b	b	b	a	c
61	62	63	64	65	66	67	68	69	70
c	b	d	a	c	b	b	a	b	a
71	72	73	74	75	76	77	78	79	80
c	d	d	b	a	a	b	b	b	d
81	82	83	84	85	86	87	88	89	90
a	b	a	a	a	a	c	c	c	d
91	92	93	94	95	96	97	98	99	100
b	a	a	b	b	b	a	b	b	d

ST-25c : DOUBLE LINE BLOCK INSTRUMENT

1) The resistance of a door lock coil in PTJ make SGE block instrument ( )
   a. 140 ohms b. 50 ohms c. 400 ohms d. 48 ohms

2) The bell coil resistance in PTJ make SGE block instrument ( )
   a. 140 ohms b. 50 ohms c. 400 ohms d. 48 ohms

3) The up/down line indicator coil resistance in PTJ make SGE block instrument ( )
   a. 140 ohms b. 50 ohms c. 400 ohms d. 48 ohms

4) The bell line relay coil resistance in PTJ make SGE block instrument ( )
   a. 140 ohms b. 50 ohms c. 400 ohms d. 48 ohms

5) In train arrival circuit in double line____are used ( )
   a. Two track circuits' b. Axle counters
   c. Last vehicle check device d. Treadle contact

6) One line clear one train movement in SGE D/L B/I is ensured by ( )
   a. FVTR b. SR1, SR2 c. ASR d. LCPR

7) Minimum number of line conductors required for D/L B/I in non-RE area are ( )
   a. 1 b. 2 c. 3 d. 4

8) No. of bands in commutator is_____for SGE DLBI ( )
   a. 2 b. 4 c. 6 d. 8

9) 1st band of commutator is used in_____circuit of SGE DLBI ( )
   a. SR_1,SR_2 b. LCPR c. GNSR d. LSS DR

10) In SGE DLBI, GNSR relay picks up when block handle is turned to____ ( )
   a. Line Closed b. TOL c. LC d. none

11) In SGE DLBI, GNSR relay drops when block handle is turned to____ ( )
   a. Line Closed b. TOL c. LC d. none

12) One line clear one train feature is achieved by_____Relays in SGE DLBI ( )
   a. SR_1, SR_2 b. LCPR, GNSR c. LSS PR, DECR d. None

13) SR_1 and SR_2 relays are provided with_____type of Relay in SGE DLBI ( )
   a. QN1 b. QBA1 c. QNA1 d. QBCA1

14) Normally SR_1 and SR_2 relays are in_____condition of SGE DLBI ( )
   a. dropped b. pick up c. both d. none

15) Initially SR_1 and SR_2 relays picks up with_____PR relay in SGE DLBI ( )
   a. line closed contact b. TOL contact c. LC contact d. none

16) Commutator is locked when Block handle is turned from___to___ ( )
   a. Line closed to TOL b. Line clear to Line closed
   c. Line clear to TOL d. Line closed to Line clear

17) Periodicity of overhauling for SGE DLBI is_____ ( )
a. 7 Years b. 10Years c. 12 Years d. No Overhauling

18) In SGE DLBI, Top indicator refers as_____ ( )
a. TCF Indicator b. TGT Indicator
c. Line closed Indicator d. None

19) In SGE DLBI, Bottom indicator refers as_____ ( )
a. TCF Indicator b. TGT Indicator
c. Line closed Indicator d. None

20) In DLBI, line clear is given at_____station ( )
a. Train sending station b. Train Receiving Station
c. At Both Stations d. None

21) In block clearance circuit of SGE DLBI,___relay normally in Pick Up condition( )
a. ZR1 b. ZR2 c. ZR3 d. none

22) In SGE DLBI, ZR3 relay drops when block handle is turned to____ ( )
a. Line Closed b. TOL c. LC d. none

23) In SGE DLBI, ZR3 relay picks up on arrival of train when block handle is in___( )
a. Line Closed b. TOL c. LC d. none

24) In DLBI, once ZR3 relay picks up, it remains in up condition with___band ( )
a. Line Closed b. TOL c. LC d. TOL/LB

25) ZR2 is to be provided with_____feature ( )
a. Slow to Pick up b. Slow to Release
c. Both d. None

26) If pre-mature TOL is done in SGE DLBI, the LSS aspect_____ ( )
a. changes to RG b. remains same DG c. becomes blank d. none

27) In SGE DLBI, if train is arrived when block handle is in LC position, then____( )
a. block inst. fails b. block inst will not fail c. both d. none

28) In SGE DLBI, if Home signal RG gets blank on arrival of train, then____ ( )
a. block inst. fails b. block inst will not fail c. both d. none

29) The Block instrument earth value should be not more than_____ ( )
a. 1Ω b. 5Ω c. 10Ω d. 12Ω

30) Block earths are measured once in___ ( )
a. 1 Year b. 2 Years c. 6 months d. 3 months

31) To open DLBI cover_____is required to be given ( )
a. without consent memo b. with consent memo
c. disconnection memo d. none

32) SGE DLBI is provided with_____arrangement ( )
a. double locking b. sealing c. both d. none

33) In SGE DLBI, top indicator is interconnected with ___ in the same block ( )
a. bottom indicator b. polarized relay c. block handle d. none

34) In SGE DLBI, bottom indicator is interconnected with ___ in the same block ( )
a. top indicator b. polarized relay c. block handle d. none

35) In SGE DLBI, bottom indicator is interconnected with____of other block inst. ( )
a. top indicator b. polarized relay c. block handle d. a&b

36) In SGE DLBI, the total numbers of line circuits are_____. ( )
a. 2 b. 3 c. 4 d. 5

37) In SGE DLBI, the total number of power supplies required at a station are___( )
a. 2 b. 3 c. 4 d. 5

38) In SGE DLBI, a separate power supply is_____for telephone circuit ( )
a. not required b. required c. both d. none

39) When SM's key is taken out in SGE DLBI,_____is not possible ( )
a. block handle operation b. bell plunger operation c. both d. none

40) AC immunity value of PR is_____V AC ( )
a. 50V AC b. 300V AC c. 1000V AC d. 10V AC

41) Resistance of Choke (S1) is_____ohms in Block unit ( )
a. 40000Ω b. 20000Ω c. 40Ω d. 50Ω

42) Resistance of Choke (S2) is_____ohms in Block unit ( )
a. 40000Ω b. 20000Ω c. 40Ω d. 50Ω

43) Impedance of Choke (S1) is_____ohms in Block unit ( )
a. 40000Ω b. 20000Ω c. 40Ω d. 50Ω

44) Impedance of Choke (S2) is_____ohms in Block unit ( )
a. 40000Ω b. 20000Ω c. 40Ω d. 50Ω

45) Filter unit is used for_____line circuits Block instrument ( )
a. bell b. telephone c. indication d. None

46) Filter unit for Block instrument is provided to block_____voltage ( )
a. AC induced Voltage b. DC Voltage
c. Both d. None

47) DLBI in RE, bell line circuit is connected with____to remove induced voltage ( )
a. Isolation transformer b. Filter unit
c. Both d. None

48) In DLBI, block handle locks initially at___position while turning towards TOL ( )

a. full notch b. half notch c. Line Closed d. TOL

49) In DLBI,_____contacts makes when bell plunger is not pressed ( )

a. B, L b. B, R c. L, R d. V, L

50) ____pairs of line wires required for connecting both the DLBIs in RE area ( )

a. one b. two c. three d. four

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
b	d	a	c	a	b	c	c	c	c
11	12	13	14	15	16	17	18	19	20
a	a	c	b	b	c	a	b	a	b
21	22	23	24	25	26	27	28	29	30
c	c	b	d	b	b	b	a	c	a
31	32	33	34	35	36	37	38	39	40
c	c	b	c	d	c	c	b	c	d
41	42	43	44	45	46	47	48	49	50
d	c	a	b	c	a	a	b	c	b

ST-25d : UFSBI & SSBPAC

1) UFSBI works in_____media ( )
a. Quad only b. OFC only c. both a & b d. none

2) UFSBI works in_____. ( )
a. RE & Non RE b. Single line c. Double line d. All

3) Output 2 relay is_____in UFSBI. ( )
a. TGTZR b. TCFXR c. TCFCR d. ASGNCPR

4) Output 3 relay is_____in UFSBI. ( )
a. TGTZR b. TCFZR c. TCFCR d. ASGNCPR

5) Output 4 relay is_____in UFSBI ( )
a. TGTZR b. TCFZR c. TCFCR d. TGTYR

6) Output 5 relay is_____in UFSBI. ( )
a. BLR b. TCFZR c. TGTZR d. ASGNCPR

7) Output 6 relay is_____ in UFSBI. ( )
a. TGTZR b. TCFZR c. TCFCR d. TGTYR

8) Output 7 relay is_____in UFSBI. ( )
a. ASGNCPR b. BLR c. TGTZR d. TGTYR

9) UFSBI works with_____in UFSBI. ( )
a. 1 out of 1 logic b. 2 out of 2 logic c. 2 out of 3 logic d. All

10) _____number of inputs that can be given to each input card in UFSBI ( )
a. 08 b. 16 c. 24 d. 36

11) Maximum no. of outputs that can be taken from each output card in UFSBI ( )
a. 16 b. 24 c. 08 d. 36

12) _____Number of Input cards are available in UFSBI ( )
a. 6 b. 2 c. 4 d. 8

13) One Line Clear One train feature in UFSBI is achieved by____relay. ( )
a. VPR b. BTSR c. TGTZR d. ASCR

14) Number of Output cards in UFSBI ( )
a. 4 b. 1 **c**. 2 d. 3

15) Output voltages of DC DC converter in UFSBI ( )
a. +5V, +12V, -12V, +24V b. +5V, +18V, +12V, +24V
c. +5V, +12V, -12V, +18V d. +5V, +12V, Isol. 15V, +24V

16) _____relays are latched relays in UFSBI ( )
a. TGTZR, TGTXR b. TCFR, TGTR
c. TCFXR, TCFZR d. TGTYR, TGTPR

17) _____number of quads are required for working of UFSBI in Single Line along with BPAC ( )
a. ½ quad b. 2+½ quad c. 1+½ quad d. 2 quad

18) SNK indication appears when___relays are in picked up condition in UFSBI ( )
a. ASGNCPR b. ASGNCR & HSGNCR
c. ASGNCR d. HSGNCR

19) In UFSBI Cancellation procedure; counter is incremented at__. ( )
a. Sending station b. TGT station
c. TCF station d. both stations

20) _____number of quads are required for working of UFSBI in Double line along with Up & Down BPAC ( )
a. ½ quad b. 2+½ quad c. 1+½ quad d. 2 quad

21) The read back contacts of BIPR 1 & BIPR 2 in UFSBI connected to___card. ( )
a. input b. Output c.CPU d. CCC

22) The read back contacts of output relays are connected to____card in UFSBI. ( )
a. input b. Output c. CPU d. CCC

23) Opto isolators are provided in_____card of UFSBI. ( )
a. input b. Output c. CPU d. CCC

24) Input de bouncing circuit is provided in_____card of UFSBI. ( )
a. input b. Output c. CPU d. CCC

25) CRC code is added in_____card of UFSBI. ( )
a. input b. Output c. CPU d. CCC

26) 2 out of 3 logic hardware is provided in_____card of UFSBI. ( )
a. input b. Output c. CPU d. CCC

27) The baud rate of the modem which is provided in UFSBI is_____bps. ( )
a.300 b.1200 c. 2400 d. 4800

28) In UFSBI mother board; in 9 pin data connector_____pins are wired. ( )
a. 3, 4 & 8 b. 1, 2 & 8 c. 2, 3 & 4 d. 3, 4 & 5

29) UFSBI address setting is done in_____. ( )
a. CPU card b.CCC card c. Output card d. Mother Board

30) Modem card converts the data from RS 232 to_____frequency in UFSBI. ( )
a. Audio b. Radio c. Voice d. Ultra high

31) The modem used in UFSBI is_____wire. ( )
a. 2 b. 3 c. 4 d. 5

32) How many Q series relays are provided inside UFSBI in single line working. ( )
a. 29 b. 30 c. 31 d. 32

33) How many Q series relays are provided inside UFSBI in double line working. ( )
a. 29 b. 30 c. 31 d. 32

34) How many QNA1 relays are provided inside UFSBI in single line working? ( )
a. 4 b. 5 c. 6 d. 7

35) How many QNA1 relays are provided inside UFSBI in double line working? ( )
a. 4 b. 5 c. 6 d. 7

36) BIPR 1 and BIPR 2 are called as_____relays in UFSBI. ( )
a. Input b. Output c. Read back d. Health checking

37) Output relays are of_____type in UFSBI. ( )
a. QN1 b. QNA1 c. QNN1 d. QL1

38) _____ohms of isolation transformer has to be connected to UFSBI side. ( )
a. 1120 b. 470 c. 600 d. 1200

39) ___ohms of isolation transformer has to be connected to cable side in UFSBI. ( )
a. 1120 b. 470 c. 600 d. 1200

40) Error code 10, 20 comes under_____in UFSBI. ( )
a. Input complementary failure b. Output complementary failure
c. BIPR 1 complementary failure d. Output forced pickup

41) Error code 18, 28 comes under_____in UFSBI. ( )
a. Input complementary failure b. Output complementary failure
c. BIPR 1 complementary failure d. Output forced pickup

42) Error code 30, 31 comes under_____in UFSBI. ( )
a. Input complementary failure b. Output complementary failure
c. BIPR 1 complementary failure d. Output forced pickup

43) Error code 33 is_____in UFSBI. ( )
a. link fail b. RSSB mode c. IN Jitter d. Out Jitter

44) Error code 37-39 are_____in UFSBI. ( )
a. link fail b. RSSB mode c. CPU bad d. UFSBI address bad

45) Error code 92 is_____in UFSBI. ( )
a. link fail b. RSSB mode c. CPU bad d. UFSBI address bad

46) Error code 34 is_____in UFSBI. ( )
a. link fail b. RSSB mode c. CPU bad d. UFSBI address bad

47) How many 24 volts DC supplies are available in UFSBI? ( )
a. 1 b. 2 c. 3 d. 4

48) When error code 37 is displayed on CPU card, then_____indication appears on alarm panel of UFSBI. ( )
a. Single CPU fail b. redundant DC-DC fail
c. System fail d. Link fail

49) When error code 15 is displayed on CPU card, then_____indication appears on alarm panel of UFSBI. ( )
a. Single CPU fail b. DC-DC fail c. System fail d. Link fail

50) When any one 5V supply is faulty, then_____indication appears on alarm panel of UFSBI. ( )
a. Single CPU fail b. DC-DC fail c. System fail d. Link fail

51) SSBPAC of Medha works on_____logic. ( )
a. 1 out of 1 b. 1 out of 2 c. 2 out of 2 d. 2 out of 3

52) SSBPAC of Medha will have_____No of cards. ( )
a. 10 b. 11 c. 12 d. 13

53) SSBPAC of Medha will have_____no of Power supply card. ( )
a. 1 b. 2 c. 3 d. 4

54) 2 out of 3 decisions will be taken by_____card in Medha SSBPAC. ( )
a. vital input b. Vital output c. CPU d. Voter module

55) _____are the Health checking relays in Medha SSBPAC. ( )
a. BI PR-1 & BIPR-2 b. HCR -1 & HCR-2
c. VCOR-1 & VCOR-2 d. VR1 & VR2

56) _____are the latch relays in Medha SSBPAC. ( )
a. TGTR & TCFR b. ASCR c. HS GNCR d. VCOR1 / VCOR2

57) For health checking_____type of relay is used in Medha SSBPAC. ( )
a. QL1 b. QN1 c. QNA1 d. QNN1

58) The input contacts are isolated from the CPU data line by using_____in Medha SSBPAC. ( )
a. opto-isolators b. Transformers c. Galvanic isolators d. None

59) The vital output card receives vital output from___card in Medha SSBPAC ( )
a. CPU card b. Modem card c. Voter module d. Non vital output card.

60) The voter module gives the majority voted output for____in medha SSBPAC. ( )
a. Vital output card b. Non vital output card c. both d. none.

61) The functionality of the modem card is to take the data from_____card ( )
a. CPU b. Voters module c. vital output d. Non vital output

62) The Event logger card is interfaced to all the CPU's through_____in Medha SSBPAC. ( )
a. CAN Bus b. Serial Communication
c. parallel communication d. both B & C.

63) For Medha SSBPAC_____provides the necessary interface between all the cards in the system. ( )
a. Back Plane b. Keying Plugs
c. Mother board d. Connecter Assembly.

64) User Interface unit contains_____in Medha SSBPAC. ( )
a. User start button b. Buzzer Acknowledge button
c. clear Fault button d. All

65) In Medha SSBPAC Configuration jumper setting is done in_____. ( )
a. CPU cards b. Input Cards
c. Voter module card d. Mother Board.

66) In Medha SSBPAC for inter block communication both self ID and remote ID need to be set in the_____card. ( )
a. CPU cards b. Input cards c. voter module card d. Back plane

67) System ID setting consists of_____jumper in Medha SSBPAC. ( )
a. 2 Nos b. 4 Nos c. 8 Nos d. 16 Nos.

68) Modem card in Medha SSBPAC is of_____communication. ( )
a. Simplex b. full duplex c. half duplex d. One way.

69) The modem Baud rate is_____in Medha SSBPAC ( )
a. 300 b. 600 c. 1200 d. 2400

70) To configure modem to Master mode, jumper 1 & 2 and 3 & 4 should be _____in Medha SSBPAC. ( )
a. Short, Open b. Short, Short c. Open, Short d. Open, Open

71) To configure modem in slave mode, jumper 1 & 2 and 3 & 4 should be _____in Medha SSBPAC. ( )
a. Short, Open b. Short, Short c. Open, Short d. Open, Open

72) Panel out puts are driven through_____cards in Medha SSBPAC. ( )
a. Vital output card b. Non vital output card c. voter module card d. Modem card

73) Output-1 Relay is_____in Medha SSBPAC. ( )
a. TGTR b. TGTRY c. TCFR d. TCFRY.

74) Output -2 relay is_____in Medha SSBPAC. ( )
a. TGTR b. TGTRY c. TCFR d. TCFRY

75) Output-3 relay is_____in Medha SSBPAC. ( )
a. TGTR b. TGTRY c. TCFR d. TCFRY

76) Output -4 relay is_____in Medha SSBPAC. ( )
a. TGTR b. TGTRY c. TCFR d. TCFRY

77) Output -5 relay is_____in Medha SSBPAC. ( )
a. TGTR b. TCFR c. ASCR d. REP-1

78) Output-6 relay is_____in Medha SSBPAC. ( )
a. REP-1 b. REP-2 c. ASCR d. TGTR

79) Output-7 relay is_____in Medha SSBPAC. ( )
a. REP-1 b. Rep-2 c. ASCR d. TGTR

80) Feedback inputs are connected to_____cards in Medha SSBPAC. ( )
a. CPU b. vital input c. vital output d. Non vital Output

81) Two vital cut off relays are incorporated in the system to increase the system _____in Medha SSBPAC. ( )
a. Redundancy b. Safety c. Availability d. Functionality.

82) The communication from modem in the local system to the modem in the remote system is established through_____interface in Medha SSBPAC. ( )
a. 2 wire b. 4 wire c. Fsk d. none.

83) For OFC communication_____interface is provided in Medha SSBPAC. ( )
a. RS232 b. RS485 c. RS 422 d. RS 222

84) LCD screen is used to display_____in Medha SSBPAC. ( )
a. Fault codes b. Software versions c. Checksum d. All

85) The Power supply card provides an output of_____in Medha SSBPAC. ( )
a.4.5V b. 6.2 V c. Both a & b d. 5.8 V

86) 6.2 V is used for_____card in Medha SSBPAC. ( )
a. Processor b. Voter module c. Event logger d. output.

87) The range of input supply that can be given to Medha SSBPAC is_____. ( )
a. 19.2-31.2 V b. 19.2 - 28.8 V c. 21.6 - 28.8 V d. 21.6 - 31.2 V

88) The modem voltage is_____for Medha SSBPAC. ( )
a. > 350 mV b. < 350mV c. > 135 mV d. < 135 mV

89) Each CPU module contains____Kb of program memory in Medha SSBPAC. ( )
a. 64 b. 128 c. 256 d. 512

90) Each CPU module contains_____serial ports for inter processor communication in Medha SSBPAC. ( )
a. One b. two c. three d. Four

91) Each CPU module contains_____serial ports for inter block communication in Medha SSBPAC. ( )
a. One b. two c. three d. Four

92) Efftronics SSBPAC consists of_____number of cards ( )
a.10 b.11 c.12 d.13

93) Each input module will have_____number of opto- isolated digital inputs in Efftronics SSBPAC. ( )
a. 8 b.16 c.32 d.60

94) Inputs are diverted to different routes by_____card in Efftronics SSBPAC. ( )
a. Input b. Modem c. Scrambler d. CPU

95) GPS time synchronization is provided in_____card of Efftronics SSBPAC ( )
a. Input b. Modem c. Scrambler d. CPU

96) Media changeover logic is provided in_____card of Efftronics SSBPAC ( )
a. Communication b. CPU c. Voter module d. Scrambler

97) _____no of outputs can be connected to non vital output card of Efftronics SSBPAC ( )
a. 8 b. 16 c.24 d.32

98) CPS signal toggling is done for every_____minutes in Efftronics SSBPAC ( )
a. 20 b. 30 c. 34 d. 38

99) _____number of outputs can be connected to vital output card in Efftronics SSBPAC ( )
a. 8 b. 12 c. 16 d. 24

100) The maintainer terminal connected to SSBPAC Efftronics can store _____ no of latest error codes. ( )
a.10 b.50 c.100 d.200

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
c	d	b	c	d	d	a	b	c	a
11	12	13	14	15	16	17	18	19	20
c	a	b	c	a	b	d	b	c	b
21	22	23	24	25	26	27	28	29	30
a	a	a	c	c	b	c	a	d	c
31	32	33	34	35	36	37	38	39	40
c	c	a	c	d	d	a	c	b	a
41	42	43	44	45	46	47	48	49	50
b	c	a	c	d	b	c	a	c	b
51	52	53	54	55	56	57	58	59	60
d	d	b	d	c	a	d	a	c	c
61	62	63	64	65	66	67	68	69	70
b	b	a	d	a	a	d	c	c	a
71	72	73	74	75	76	77	78	79	80
c	b	a	b	c	d	c	a	b	b
81	82	83	84	85	86	87	88	89	90
c	a	a	d	c	c	a	c	d	b
91	92	93	94	95	96	97	98	99	100
a	b	d	c	d	a	c	c	a	c

ST-26 : SIGNALING IN R.E. AREA

1) The minimum Signal clearance should be_____mm in RE area. ( )
   a. 2000 b. 200 c. 20 d. none

2) In RE area normally no part of the signal should lie in_____clearance zone ( )
   a. signal b. electrical c. both d. none

3) In RE area if any part of the signal lies in signal clearance zone but not in electrical clearance zone, then the signal post is provided with____towards OHE mast ( )
   a. iron sreening mesh b. proper earthing for mesh
   c. both a & b d. none

4) The nearest part of the signal post from the CLOT shall be_____ ( )
   a. 3.5 m b. 2.844 m c. 2.5 m d. none

5) The normal implantation of OHE mast from the CLOT shall be_____ ( )
   a. 3.5 m b. 2.844 m c. 2.5 m d. none

6) In RE, the distance between signal and mast in front of it, must not be____ ( )
   a. less than 3m b. less than 10m c. less than 30m d. none

7) In RE, the distance between signal and mast behind it must be not_____less than if mast is anchored ( )
   a. less than 3m b. less than 10m c. less than 30m d. none

8) In RE, the distance between signal and mast behind it must be not_____less than if mast is not anchored ( )
   a. less than 3m b. less than 10m c. less than 30m d. none

9) Catenary current carrying capacity on double line section in RE area is___ ( )
   a. 500A b. 600A c. 800A d. 1000A

10) Catenary current carrying capacity on single line section in RE area is_____( )
   a. 500A b. 600A c. 800A d. 1000 A

11) ____induction effect can be eliminated in RE area ( )
   a. electro-magnetic b. electro-static c. both d. none

12) ____induction effect can not be eliminated but can be reduced in RE area ( )
   a. electro-magnetic b. electro-static c. both d. none

13) The maximum length of parallelism is permitted for DC circuits on D/L sections in RE area is_____ ( )
   a. 1 Km b. 1.2 Km c. 2.8 Km d. 2.1 Km

14) The maximum length of parallelism is permitted for DC circuits on S/L sections in RE area is_____ ( )
   a. 1 Km b. 1.2 Km c. 2.8 Km d. 2.1 Km

15) Direct feeding range of signals on D/L in new design is_____ ( )
a. 180 m b. 120 m c. 600 m d. 220 m

16) Direct feeding range of signals on S/L in new design is_____ ( )
a. 180 m b. 120 m c. 600 m d. 220 m

17) Stray current shall not exceed____mA for track circuits longer than 100m ( )
a. 1 mA b. 10 mA c. 100 mA d. 1000 mA

18) Stray current shall not exceed____mA for track circuit lengths up to 100m ( )
a. 1 mA b. 10 mA c. 100 mA d. 1000 mA

19) Stray voltage shall not exceed____mV in a track circuit ( )
a. 1 mV b. 10 mV c. 100 mV d. 1000 mV

20) Electrical Point Machine non-trailable type (IRS.24 & Siemen's IA), the A.C. immunity level shall not be less than_____at 50 Hz. ( )
a. 300V b. 160V c. 100V d. none

21) The maximum permissible distance between the machine and contactor unit should be_____on double line sections. ( )
a. 2.4 Km b. 1.6 Km c. 1.1 Km d. 0.91 Km

22) The maximum permissible distance between the machine and contactor unit should be_____on single line sections. ( )
a. 2.4 Km b. 1.6 Km c. 1.1 Km d. 0.91 Km

23) The maximum length of parallelism of a power cable is up to_____ ( )
a. 2.4 Km b. 1.6 Km c. 1.1 Km d. 0.91 Km

24) The other name of isolation transformer is called as_____ ( )
a. 1:1 transformer b. Phantom transformer
c. both a & b d. none

25) The purpose of isolation transformer in RE area is_____ ( )
a. to block induced voltages b. to block line circuit voltages
c. to allow induced voltages d. to isolate induced voltages

26) In RE, isolation transformer_____ohms coil is connected towards line side ( )
a. 1120 b. 470 c. 360 d. 120

27) In RE, isolation transformer_____ohms coil is connected towards block side ( )
a. 1120 b. 470 c. 360 d. 120

28) In RE, isolation transformer_____ohms coil is with centre tapping ( )
a. 1120 b. 470 c. 360 d. 120

29) _____block instrument is not suitable in RE area ( )
a. double line b. push button c. daido d. token

30) Block bell equipment is connected in RE area for the____block instrument ( )
a. double line b. push button c. daido d. none

31) Block bell equipment has_____circuit with 'SO' relay of miniature type ( )
a. oscillator b. rectifier c. both a & b d. none

32) ___frequency sends on line by block bell equipment in double line block in RE ( )
a. 50 Hz b. 150 Hz c. 250 Hz d. 350 Hz

33) The choke coil resistance & impedance value in RE area TC is_____ ( )
a. 3 Ω & 160 Ω b. 4 Ω & 160 Ω c. 3 Ω & 120 Ω d. 4 Ω & 120 Ω

34) The choke in a TC is connected to_____rail side ( )
a. + ve always b. – ve always c. + ve or – ve d. none

35) The purpose of Choke in the TC of RE area is_____ ( )
a. to block induced voltages b. to block TC circuit voltages
c. to allow induced voltages d. to earth induced voltages

36) The first TPR should be of_____type relay only to be used in RE ( )
a. QSRA1 b. QSPA1 c. QBCA1 d. QTA1

37) The normal height of contact wire for regulated OHE above rail level is _ (BG)( )
a. 5.75 m b.5.55 m c. 4.65 m d. None

38) The max. height of contact wire for un-regulated OHE above rail level is _(BG)( )
a. 5.75 m b.5.55 m c. 4.65 m d. None

39) The min. height of contact wire for un-regulated OHE above rail level is _(BG)( )
a. 5.75 m b.5.55 m c. 4.65 m d. None

40) Near traction sub-station, underground cable must be laid in_____ ( )
a. concrete pipe b. GI pipe c. DWC pipe d. All

41) Earth resistance shall not exceed_____for checking stray voltage & current ( )
a. 1 Ω b. 5 Ω c. 10 Ω d. none

42) The safest handling voltage in RE area as per new design is_____ ( )
a. 120V b. 240V c. 300V d. 400V

43) Filter unit is connected in between block instrument and_____ ( )
a. isolation transformer b. line side of isolation transformer
c. block inst. side of isolation transformer d. none

44) Filter unit accommodates block inst. line circuits with_____ ( )
a. 1 no. of DC supply b. 1 no. of DC single polarities
c. 2 nos. of DC supply d. 2 nos. of DC single polarities

45) Block inst. line circuits of_____circuits are connected to Filter unit ( )
a. AC or DC b. DC & AC c. AC d. DC

46) The purpose of Condenser in a Filter unit____ ( )
a. to block AC & to allow DC supply b. to block DC & AC supply.
c. to block DC & to allow AC supply d. to allow DC & AC supply

47) The Condenser in a Filter unit will have____number of terminals ( )
a. 2 b. 3 c. 4 d. none

48) In RE, the filter unit is provided with____filtering facility ( )
a. one stage b. two stage c. three stage d. none

49) The purpose of Choke in the filter unit of RE area is____ ( )
a. to block induced voltages b. to block line circuit voltages
c. to allow induced voltages d. to earth induced voltages

50) For 25 KV A.C. lateral clearance between any live part of OHE and part of any fixed structure to a moving dimension is_____ ( )
a. 400 mm b. 320 mm c. 270 mm d. 220 mm

51) For 25 KV A.C. lateral clearance between any live part of OHE and part of any fixed structure to a stationary dimension is_ ( )
a. 400 mm b. 320 mm c. 270 mm d. 220 mm

52) For 25 KV A.C vertical clearance between any live part of OHE and part of any fixed structure to a moving dimension is_____ ( )
a. 400 mm b. 320 mm c. 270 mm d. 220 mm

53) For 25 KV A.C. vertical clearance between any live part of OHE and part of any fixed structure to a stationary dimension is_ ( )
a. 400 mm b. 320 mm c. 270 mm d. 220 mm

54) Longitudinal RE bond is provided for negative rails of_____ ( )
a. within the same TC b. adjacent TCs in same line
c. TC to RE mast d. parallel TCs

55) Transverse RE bond is provided for negative rails of_____ ( )
a. within the same TC b. adjacent TCs in same line
c. TC to RE mast d. parallel TCs

56) Structural RE bond is provided for negative rails of _____ ( )
a. within the same TC b. adjacent TCs in same line
c TC to RE mast d. parallel TCs

57) Inter track RE cross bond is provided for negative rails of _____ ( )
a. within the same TC b. adjacent TCs in same line
c. TC to RE mast d. parallel TCs

58) The distance between any OHE mast and point rod shall not be less than _ ( )
a. 40 mm b. 50 mm c. 10 mm d. None

59) A wire insulator to be provided at every____of wire length transmission ( )

a. 40 m b. 500 m c. 100 m d. 300 m

60) Factor of safety in new design is___ ( )

a. 1.5 b. 1.2 c. 2.5 d. 3.5

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	c	c	b	c	c	b	a	d	c
11	12	13	14	15	16	17	18	19	20
b	a	c	d	d	a	c	b	c	b
21	22	23	24	25	26	27	28	29	30
c	d	a	c	d	b	a	b	b	a
31	32	33	34	35	36	37	38	39	40
b	b	c	b	a	b	b	a	c	a
41	42	43	44	45	46	47	48	49	50
b	d	b	d	d	c	c	c	a	d
51	52	53	54	55	56	57	58	59	60
b	c	b	a	b	c	d	a	d	a

: AUTOMATIC SIGNALLING and IBS

1) Automatic signals interlocked with level crossing gate and point just ahead of the gate is provided with_____ ( )
   a. 'A' marker b. 'G' marker
   c. Illuminated 'A' & 'AG' marker d. Illuminated 'A' marker

2) Semi automatic stop signal is provided with_____ ( )
   a) 'A' marker only b) Illuminated 'A'markeror Illuminated A &AG
   c) 'AG' marker only d) 'P' marker

3) Adequate distance in automatic block system on double line is_____ ( )
   a) 180 mts b) 400 mts c) 120 mts d) 300 mts

4) If a semi automatic stop signal is protecting LC gate as well as point then _____ shall be provided on the post. ( )
   a) 'A' marker b) illuminated 'A' marker
   c) illuminated 'AG' marker d) b & c

5) Adequate distance in automatic block system on single line is_____ ( )
   a) 180 mts b) 400 mts c) 120 mts d) 300 mts

6) The normal aspect of automatic stop signal is_____ ( )
   a) caution b) proceed c) attention d) RG

7) For passing an Automatic signal at ON position the train has to stop for _____ minute by day and_____by night. ( )
   a) 1 & 2 b) 2 & 1 c) 5 & 5 d) none

8) Red lamp protection is provided to avoid approaching a_____signal. ( )
   a) manual b) blank c) stop d) semi-automatic

9) If an automatic signal becomes blank for any reason, the signal in rear shall display_____aspect. ( )
   a) Attention b) proceed c) RG d) caution

10) Semi automatic stop signal will work as_____ ( )
   a) automatic stop signal b) manual stop signal c) a and c d) none

11) Semi automatic stop signal is operated by_____ knob/lever ( )
   a) queen b) king c) commander d) none

12) Automatic stop signal can be_____aspect ( )
   a) 2 only b) 3 only c) 4 only d) 3 Aspect or 4 Aspect

13) Aspect of Automatic stop signal depends upon_____ ( )
   a) Aspect of signal ahead b) Condition of track circuit ahead
   c) position of train ahead d) all

14) Automatic stop signal is provided with ( )
a) A marker board b) P marker board
c) IB marker board d) AG marker board

15) Minimum Overlap distance beyond automatic stop signal is ( )
a) 180 mt b) 220 mt c) 400 mt d) 120 mt

16) Semi automatic stop signal is provided with_____ ( )
a) Illuminated 'A'marker or Illuminated A &AG b) Illuminated AG marker
c) Illuminated S marker d) none

17) 3 aspect ASS will display ___aspect when 1 signaling section & overlap is clear ( )
a) ON b) Caution c) Proceed d) Attention

18) 3 aspect ASS will display____aspect when 2 signaling section & overlap is clear ( )
a) Proceed b) Attention c) Caution d) ON

19) 4 aspect ASS will display____aspect when 1 signaling section & overlap is clear ( )
a) Caution b) Attention c) Proceed d) ON

20) 4 aspect ASS will display____aspect when 2 signaling section & overlap is clear ( )
a) Caution b) Attention c) Proceed d) ON

21) 4 aspect ASS will display____aspect when 3 signaling section & overlap is clear ( )
a) Caution b) Attention c) Proceed d) ON

22) Direction of traffic must be established for working of trains on_____system ( )
a) RE S/L automatic b) RE D/L automatic
c) Non-RE S/L automatic d) a and c

23) Direction of traffic need not be established for working of trains on___system ( )
a) RE S/L automatic b) RE D/L automatic
c) Non-RE S/L automatic d) a and c

24) Automatic signaling system ( )
a) Reduces the headway between trains b) Increases the section capacity
c) Safety depends upon the alertness of driver d) all

25) Automatic stop signal provided with illuminated "A" and "AG" marker will display illuminated "A" marker when ( )
a) Points are detected b) Closed position of LC is detected
c) a and b d) none

26) Automatic stop signal provided with illuminated "A" and "AG" marker will display illuminated "AG" marker when ( )
a) Points are detected b) LC gate is defective c) a and b d) none

27) Automatic stop signal provided with illuminated "A" & "AG" marker can display( )
a) either "A" or "AG" marker b) both markers at a time
c) question vague d) none

28) Automatic stop signal working either as fully automatic signal or manual signal is provided with_____marker ( )

a) Illuminated “A” b) Illuminated “M” c) Illuminated “A” & “M” d) none

29) Each automatic block signaling section is divided as_____track ( )

a) Overlap only b) berthing only c) overlap and berthing d) none

30) _____is compulsory in automatic signaling ( )

a) cascading b) red lamp protection

c) 3 or 4 aspect signal d) all

31) No. of Controlling relays required for 3 aspect automatic signal are ( )

a) 2 b) 3 c) 4 d) none

32) No. of Controlling relays required for 4 aspect automatic signal are ( )

a) 2 b) 3 c) 4 d) none

33) Controlling relays required for 3 aspect automatic signal are ( )

a) HR b) HHR c) DR d) a and c

34) Controlling relays required for 4 aspect automatic signal are ( )

a) HR b) HHR c) DR d) all

35) Condition of controlling relays when 3 aspect automatic stop signal is displaying caution aspect ( )

a) HR ↑ DR ↑ b) HR ↑ DR ↓ c) HR ↓ DR ↓ d) none

36) Condition of controlling relays when 3 aspect automatic stop signal is displaying proceed aspect ( )

a) HR ↑ DR ↑ b) HR ↑ DR ↓ c) HR ↓ DR ↓ d) none

37) Condition of controlling relays when 4 aspect automatic stop signal is displaying caution aspect ( )

a) HR ↑ HHR ↓ DR ↓ b) HR ↑ HHR ↑ DR ↓

c) HR ↑ HHR ↑ DR ↑ d) HR ↓ HHR ↑ DR ↓

38) Condition of controlling relays when 4 aspect automatic stop signal is displaying attention aspect ( )

a) HR ↑ HHR ↓ DR ↓ b) HR ↑ HHR ↑ DR ↓

c) HR ↑ HHR ↑ DR ↑ d) HR ↓ HHR ↑ DR ↓

39) Condition of controlling relays when 4 aspect automatic stop signal is displaying proceed aspect ( )

a) HR ↑ HHR ↓ DR ↓ b) HR ↑ HHR ↑ DR ↓

c) HR ↑ HHR ↑ DR ↑ d) HR ↓ HHR ↑ DR ↓

40) Condition of controlling relays when 4 aspect automatic stop signal is displaying ON aspect ( )

a) HR ↑ HHR ↓ DR ↓ b) HR ↑ HHR ↑ DR ↓

c) HR ↑ HHR ↑ DR ↑ d) HR ↓ HHR ↓ DR ↓

41) Condition of controlling relays when 3 aspect automatic stop signal is displaying ON aspect ( )

a) HR ↑ DR ↑ b) HR ↑ DR ↓ c) HR ↓ DR ↓ d) none

42) When HR is de-energized, automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

43) When HR and HHR is energized, automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

44) When HR, HHR, and DR is energized, automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

45) With HR ↑ and HECR ↓ 3 aspect automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

46) With HR ↑ and HECR ↑ 3 aspect automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

47) With HR ↑, DR ↑ and DECR ↓ 3 aspect automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

48) With HR ↑, DR ↑ and DECR ↑ automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

49) With HECR ↓, DECR ↓ 3 aspect automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

50) With HECR ↓, HHECR ↓ DECR ↓ 4 aspect automatic stop signal will display ( )

a) RG aspect b) Attention aspect c) Proceed aspect d) none

51) When train passes LSS with LSS knob in Reverse position___indication with buzzer appears. ( )

a) K1 b) K2 c) K3 d) K4

52) To reset the axle counter section of IBS, the receiving end ASM has to press _____ button. ( )

a) PB4 b) PB3 c) PB2 d) PB1

53) __Relay proves that the Axle counter section is free of any axle. ( )

a) ACSR b) ACZR c) ACPR d) LSS NSR

54) _____Indication appears when train passes IBS at OFF position. ( )

a) K1 b) K2 c) K3 d) K4

55) The length of IBS overlap is_____. ( )

a) 400m b) 200m c) 180m d) 120m

56) To acknowledge K1 buzzer_____relay has to pick up. ( )
a) XR b) CRR c) CPBR d) PBPR

57) ACZR picks up through_relay front contact and maintains through stick path ( )
a) PBPR b) CRR c) ACZNR d) ACZR

58) _____Relay picks up when K4 buzzer is acknowledged. ( )
a) XR b) CRR c) CPBR d) PBPR

59) _____Button is to be pressed at dispatch end for axle counter resetting. ( )
a) PB4 b) PB3 c) PB2 d) PB1

60) _____Button is to be pressed at dispatch end for resetting IB section. ( )
a) PB4 b) PB3 c) PB2 d) PB1

61) _____Indication appears when IB power fails. ( )
a) K1 b) K2 c) K3 d) K4

62) For reducing the induced voltages in cables____is provided for IB operation( )
a) RE cut b) remote feed c) Double cutting d) filter unit

63) _____Relay picks up when PB3 is pressed. ( )
a) XR b) ACZR c) CPBR d) PBPR

64) Driver of a train has to communicate with_____station on IB phone. ( )
a) Rear b) advance c) both d) none

65) When train passes IBS at ON,_____relay drops. ( )
a) PBPR b) CRR c) ACZNR d) ACZR

66) IB Home signal is provided with_____marker. ( )
a) I b) B c) P d) IB

67) K4 indication appears when ( )
a) IB signal passed at ON b) IB signal passed at OFF
c) LSS passed at ON d) IB signal at blank

68) When IB signal is danger and telephone on IB post is not working, the Driver has to wait for_____minutes. ( )
a) 15 b) 10 c) 5 d) 0

69) LSS is controlled by_____in IBS ( )
a) Block instrument b) Axle counter
c) IB signal d) None of the above

70) IB signal is controlled by the_____in IBS ( )
a) Block instrument b) Axle counter
c) IB signal d) None of the above

71) To reset the axle counter in IBS block section, the sending end ASM presses _____push button ( )
a) PB1 b) PB2 c) PB3 d) none

72) For signal lighting circuits _____is used ( )
a) 110V DC with unscreened cables b) 110V AC with unscreened cables
c) 110V DC with screened cables d) 110V DC with screened cables

73) IB signal is substitute of_____station ( )
a) class A b) class B c) class C d) special class

74) IB signal splits block section into_____ ( )
a) Single section b) 2 sections c) Multiple sections d) none

75) Section capacity increases with_____signal ( )
a) Home b) routing home c) IB d) all

76) The IB signalling is provided to avoid the expenditure on_____ ( )
a) additional Block Instruments b) Station Building
c) Operating Staff d) all

77) 'Rear Section' and 'Advance Section' are related with_____ ( )
a) IB Signalling b) Automatic Signalling c) Outlay siding d) All

78) Maximum_____can be dealt on IB signalling ( )
a) Single train b) 2 trains c) 3 trains d) any number of trains

79) Rear section means the section between_____ ( )
a) LSS and IBS including IB overlap b) IB Signal and station home
c) LSS and station home d) can be anything

80) Advance section means the section between_____ ( )
a) IBS and FSS of station in rear b) IBS and FSS of station in advance
c) IBS and distant signal d) IBS and LSS of station in advance

81) IB signal is placed at the point where the section is divided into_____ ( )
a) Single portion b) 2 portions c) 3 portions d) none

82) Incorrect statement related to IB signal_____ ( )
a) Provided on D/L b) section capacity increases
c) can be provided in neutral section d) none

83) The IB Signal shall be so located that the running time of_____ ( )
a) Rear Section will be equal to Advance Section
b) Rear Section will be more than Advance Section
c) Rear Section will be less than Advance Section
d) none

84) _____audible buzzers are stopped by pressing the Acknowledgement button ( )
a) K1 & K2 b) K2 & K3 c) K3 & K4 d) K1 & K4

85) ____audible buzzers are stopped by normalizing the LSS & IB Signal controls ( )
a) K1 & K2 b) K2 & K3 c) K3 & K4 d) K1 & K4

86) IB panel consists of_____indications ( )
a) IB Signal indication b) IB Distant Signal indication
c) IB track indication d) all

87) IB panel consists of_____indications ( )
a) LSS Signal indication b) A/C Clear indication
c) A/C Occupied indication d) all

88) K1 indication appears when_____relay drops ( )
a) NSR b) HSR c) ACZR d) all

89) In IB signaling LCPR picks up_____at station ( )
a) train receiving b) train sending station
c) both the stations d) none

90) Incorrect statement to pick up IBS DR is_____ ( )
a) IB lever reversed b) IB lever Normalized
c) LCPR up d) IB TPR up

91) Correct statement related to IBS HSR_____ ( )
a) Normally up b) A/C section occupied & IBS not taken OFF
c) A/C section occupied & IBS taken OFF d) None

92) ACZR has_____parallel holding paths ( )
a) 2 b) 3 c) 4 d) none

93) Intermediate Block Signaling system can be provided on ( )
a) single line b) double line c) multiple line d) all

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
c	b	c	c	c	b	a	b	c	c
11	12	13	14	15	16	17	18	19	20
b	d	d	a	d	a	b	a	a	b
21	22	23	24	25	26	27	28	29	30
c	d	b	d	c	c	a	a	c	d
31	32	33	34	35	36	37	38	39	40
a	b	d	d	b	a	a	b	c	d
41	42	43	44	45	46	47	48	49	50
c	a	b	c	a	d	d	c	a	a

51	52	53	54	55	56	57	58	59	60
b	b	c	c	a	d	c	a	c	d
61	62	63	64	65	66	67	68	69	70
d	a	c	a	d	d	d	c	b	a
71	72	73	74	75	76	77	78	79	80
b	b	c	b	c	d	a	b	a	b
81	82	83	84	85	86	87	88	89	90
b	c	a	d	b	d	d	c	b	b
91	92	93	94	95	96	97	98	99	100
c	b	d							

ST-28 : SIGNAL INTERLOCKING

1) Signaling is based on approved_____plan ( )
a) Operating **b) Engineering** c) Cable plan d) S & T

2) The Signaling Plan is approved by_____ ( )
a) **CSTE** b)CRS c) CSE d) COM

3) Essentials of interlocking as per IRSEM is given in_____ ( )
a) **Para 7.6.1** b) Para 8.7.1
c) Para 7.8.1 d) Para 8.7.2

4) Lock retaining bar is required if distance between the Signal and Firstfacing pointis_____ ( )
b) Less than120mt b) More than 120mt
c) Less than180 mt **d) More than 180mt**

5) Signal is released bypointif_____position of point is required for the signal ( )
a. Normal **b)Reverse** c)bothway d)none

6) Signal locks thepoint if_____position of point is required forthesignal ( )
c) **Normal** b)Reverse c)bothway d)none

7) Signal locks the point bothwaysfor_____purpose ( )

d) Flexibility b)parallelmovement **c) Routeholding** d)none

8) In a station different signalling gears are to be operated in a logicalsequence for dealing thetrainswith ( )

e) **saferunning** b)unsafe running c)late running d) none

9) The shunt signals are to be numbered after mainsignalsin__ ( )

f) **group1** b)group 2 c) group3 d) none

10) The main signals are to be numbered after shuntsignalsin_____ ( )

g) group1 b)group 2 **c) group3** d) none

11) The signalingplanprovides_____information ( )

h) typeofsignaling b) class of station c) standardsofinterlocking **d) all**

12) Successive_____locking is the means ofrouéholding ( )

i) point **b)lock bar** c) slot d) LC gate

13) The interlocking between signal lever and point lever is such that point lever cannot beoperatedunless ( )

j) **signal leverisnormalized** b) signal lever isreversed c) signal lever is inmiddleposition d) none

14) Signal lever can be reversedonlywhen ( )

k) point lever is inmiddleposition b) ¾ th position **c) point lever is in full normal or full reverseposition** d) none

15) which statementisincorrect ( )

l) signal has relation withpoint

m) point can be operated after signal isreversed

n) point cannot be operated after signal isreversed

o) none

16) conditions to take offsignalsincludes ( )

p) points in the route, overlapandisolation b) conflicting signals not takenoff c) LC gateis closed **d) all**

17) Incorrect statement related with conditions to takeoffsignals ( )

q) points in therouterequired **b) conflicting signals can be takenoff**

c) LC gate mustbeclosed d) points in overlap and isolationrequired

18) Incorrect statement related with conditions to takeoffsignals ( )

r) points in therouterequired b) conflicting signals cannot be takenoff

c) LC gate canbeopen d) points in overlap and isolationrequired

19) Incorrect statement related with conditions to takeoffsignals ( )

s) **points in the routenotrequired** b) conflicting signals cannot be takenoff

c) LC gate mustbeclosed d) points in overlap and isolationrequired

20) Incorrect statement related with conditions to takeoffsignals ( )

t) points in therouterequired b) conflicting signals cannot be takenoff

c) LC gate mustbeclosed **d) points in overlap and isolation notrequired**

21) lock retaining barwillensure ( )

u) routereleasing **b)routeholding** c)route checking d)all

22) Lock bar isfreewhen ( )

v) signal is nottakenoff b) no train onlockbar **c) aand b** d) none

23) Point will belocked by ( )

w) **its owntrack circuit** b) back lockstracks

c)concernedsignal d) a and c

24) When cross over point zone trackisoccupied ( )

x) Only A end pointwilloperate b) Only B end point willoperate

c) A end and B end willnotoperate d) A end and B end willoperate

25) If route is locked after train movement, same canbereleased ( )

y) when back locktracksfail b) only when back lock tracks pickup

c) routecancellationapplied **d) b andc**

26) When home signal is approach locked, route can bereleasedin _____ways( ) a)2 b)3 **c) 4** d) 5

27) When home signal is not approach locked, route can bereleasedin _____ways ( ) a)2 **b) 3** c) 4 d) 5

28) Starter route isreleasedthrough ( )

z) UYR'spath b) JSLR/NJPR path

c) TSR/AppTPRpath **d) all**

29) Conditions proved in UCR, ASR and HR arereflectedin ( )

aa) **Tableofcontrol** b) Signallingplan

c)Engineeringplan d) cable routeplan

38) Circuit testing consists of ( )

a) Negative tests b) Dead/Approach locking tests

c) Back/Route locking tests **d) all**

39) Wire to wire test is done in_____stages ( )

a) single **b)2** c) 3 d) final only

40) Wire to wire test is done ( )

a) after all wires are drawn b) before all wires are drawn

c) after 20 % of wires are drawn d) none

41)Wire to wire test is done ( )

a) after all wires are drawn b) before all wires are drawn

c) after soldering drawn **d) a and c**

42) Bell test is carried out to check whether ( )

a) wiring is done as per wiring sheet b) wire drawn has continuity

c) any wiring faults are accumulated **d) all**

43) The wireman shall give the following information to the tester after holding the wire ( )

a) name of the relay b) color of the wire

c) no. of wires in contact cavity **d) all**

44) The wireman after verifying the Relay plug board shall loudly spell out ( )

a) Relay name b) rack no c) number of wires **d) all**

45) Approach locking, back locking and conflicting signals are not taken off is Reflected in ( )

a) **Table of control** b)Signalling plan c) route plan d) none

46) Cross sheet testing means ( )

a) testing of parallel movements b) testing of crossover movements

c) testing of conflicting signals d) all

47) Conflicting signals are of_____types ( )

a) **2** b)3 c) 4 d) none

48) conflicting signals are reflected in TOC ( )

a) Indirectly conflicting **b) directly** c) a and b d)none

49) Conditional locking includes ( )

a) locking condition b) free condition **c) a and b** d)none

50) Functional test is to be done ( )

a) when new equipment is commissioned b) indoor equipment is changed

c) track side equipment/cable is changed **d) all**

A N S W ERS K EY

1	2	3	4	5	6	7	8	9	10
b	a	a							
11	12	13	14	15	16	17	18	19	20
	d	b	a	c	a	a	c	d	b
21	22	23	24	25	26	27	28	29	30
a	c	b	d	b	c	a	d	b	c
31	32	33	34	35	36	37	38	39	40
a	c	d	c	b	d	a	d	b	a
41	42	43	44	45	46	47	48	49	50
d	d	d	d	a	c	a	b	c	d

ST-29 : SIEMENS INTERLOCKING

1) The normal operating voltage of metal to metal relay is_____ ( )

a) 12v dc b) 24v dc c) 48v dc d) 60v dc

2) The maximum contacts available in K-50 relay is_____ ( )
a) 3 b) 5 c) 8 d) 16

3) The normal coil relay in interlocked mini-group will be at_____position. ( )
a) middle b) top c) bottom d) rear

4) Neutral relay pickup time is_____ ( )
a) 25ms to 60 ms b) 30ms to 65 ms
c) 25ms to 45 ms d) 20ms to 45 ms

5) Neutral relay drop away time is_____ ( )
a) 7ms to 25 ms b) 7 ms to 15 ms
c) 7ms to 20 ms d) 17 ms to 25 ms

6) AC- Immunized relay pick time is_____ ( )
a) 20ms b) 200ms c) 15ms d) 150ms

7) AC- Immunized relay drop away time is_____ ( )
a) 2ms b) 50ms c) 20ms d) 5 ms

8) _____pins will prevent plugging the relay in inverted position. ( )
a) code b) guide c) fixed d) non interchangeable

9) Coil resistance of interlocked relay is_____ohm ( )
a) 615 b) 515 c) 415 d) 315

10) Contact configuration of AC immunized relay(both top & bottom) is_____ ( )
a) 4F/4B b) 6F/2B c) 5F/3B d) 5F/1B

11) Sh. signal group controls_____shunt signals independently. ( )
a)1 b) 2 c) 3 d) 4

12) The capacity of major group is upto_____neutral relays. ( )
a) 2 b) 8 c)15 d) 30

13) 160-way tag block can accommodate_____no. of mini group relays wiring. ( )
a) 2 b) 4 c) 6 d) 8

14) 200-way tag block can accommodate____no. of minor group relays wiring ( )
a) 2 b) 4 c) 6 d) 8

15) The position of reverse coil in interlocked mini group is_____ ( )
a) Top b) Bottom c) middle d) none

16) Each universal route group caters for_____route sections. ( )
a) 5 b) 4 c) 3 d) 2

17) U(N)LR proves that the sub-route is_____ ( )
a) Free b) locked c) under cancellation d) none

18) UYR1 & UYR2 in a route group, functions as_____. ( )
a) Sectional route release b) sub-route release
c) sub-route lock d) none

19) _____is a route section clear checking relay in a route group. ( )
a) DUCR b) U(R)S c) U(N)S d) none

20) _____relay proves that the route section is set. ( )
a) U(R)S b) U(N)S c) UDKR d) none

21) _____relay proves that the route section is not set ( )
a) U(R)S b) U(N)S c) UDKR d) none

22) Point chain group controls_____no. of points. ( )
a) 3 b) 5 c) 6 d) 8

23) WKR3 is provided with _____no. of coils. ( )
a) 1 b) 2 c) 3 d) none

24) Color of GN button ( )
a) Red b) red with dot c) blue d) grey

25) EWN button is operated when _____ ( )
a) Point track failed b) Point track is clear
c) Signal taken off d) Route locked.

26) In Siemens RRI, which relay circuit ensures that whole route is available for requested signal movement and prevents partial route setting? ( )
a) Z1UR b) DUCR c) UDKR d) ZDUCR

27) Main signal initiation relay is_____ ( )
a) MN-GZR b) MN- GR1 c) MN-GR2 d) none

28) In Siemens RRI, Route initiation relay is_____ ( )
a) Z1RR b) U(R) S c) Z1UR d) GR1

29) In Siemens RRI ,Sub route locking relay_____ ( )
a) GLSR b) U(R) S c) U(R)LR d) GR1

30) One signal one train feature achieved through_____relay ( )
a) G(N)LR b) U(N) LR c) U(R)LR d) GLSR

31) As per Railway Board policy, Route Relay Interlocking should be provided for centralized operation of points and signals at stations which have____routes ( )
(a) Up to 50 (b) 50 to 100 (c) 100 to 200 (d) Above 200

32) In Siemens RRI, a sub-route can have ( )
(a) 1 no. of route section (b) 1 or 2 nos. of route sections
(c) 3 or 4 nos. of route sections (d) 1 or more nos. of route sections

In Siemens RRI, the following symbol is used for …… ()

(a) Point locking relay (b) Point detection relay
(c) Route checking relay (d) Route locking relay

33) In Siemens RRI, one point chain group can cater for ( )
(a) 5 nos. of major point groups (b) 6 nos. of major point groups
(c) 7 nos. of major point groups (d) 8 nos. of major point groups

34) In Siemens RRI, 'B' route section setting relay 'B' U(R)S controls ( )
(a) Setting of point in the straight route.
(b) Setting of point in the diverging route.
(c) Sequential proving of sub-route track circuits for automatic route release by the passage of train
(d) Locking of sub-route when it is engaged in a signalled move.

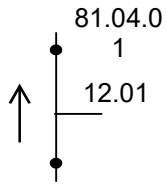
35) In Siemens RRI, the coil connections for bottom relay of a K50 neutral mini groupare terminated on ( )
(a) 11-12 (b) 13-14 (c) 91-92 (d) 93-94

36) In Siemens RRI, the standard contact configuration for Route lamp Checking Relay UECR is ( )
(a) 6F/2B (b) 6F/1B (c) 4F/4B (d) 5F/1B

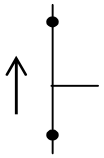
37) In Siemens RRI, the Sub-route Releasing relay is ( )
(a) U(R)S (b) G(R)LR (c) U(N)LR (d) U(R)LR

38) Relay provided to achieve interlocking between main signal & shunt signal leading towards the same direction. ( )
(a) SH GZR (b) SH G(R/N)R (c) SH GLSR (d) SH GR2

39) In Siemens RRI, the number 04 shown in the following figure indicates …… ( )
(a) Contact termination on tag block
(b) Rack number on which the relay is provided
(c) Position of the relay in relay rack
(d) Contact number of the relay



40) In Siemens RRI, the following symbol indicates ……. ( )
(a) Front contact of a normally de-energized neutral relay
(b) Back contact of a normally energized neutral relay
(c) Back contact of a normally de-energized neutral relay
(d) Front contact of a normally energized neutral relay



42) In Siemens RRI, code pins are provided on the relay base plate of mini groups_____ ( )
(a) To prevent the plugging of wrong relay in a base.
(b) To prevent plugging of relay in a wrong direction
(c) To prevent picking up of relay during wrong operation
(d) All of the above

43) Which of these relays does not pick up in a 2-aspect main signal group? ( )
(a) GR1 (b) GPR1 (c) GR2 (d) GR3

44) Which of these relays does not pick up in a 3-aspect main signal group? ( )
(a) GR1 (b) GLSR (c) G(R)LR (d) GR3

45) Which of these relays can pick up in a signal group through button operation onpanel even if SM's key is OUT to facilitate restoration of cleared signal to 'ON' position in case of emergency? ( )
(a) GNR (b) EGNR
(c) Both GNR & EGNR (d) None of the above

46) In RRI Interlocking system, the function of Points Chain Group is to ensure that_____ ( )
(a) Starting of point machines in a route is one after the other during route setting.
(b) Starting of all the point machines in a route is simultaneous during route setting.
(c) Picking up of Z1WR in each Point group is simultaneous during route setting.
(d) None of the above

47) The K-50 interlocked relay used in Siemens RRI contact arrangement is ( )
(a) 5F/3B (b) 6F/2B (c) 4F/4B (d) All of the above

48) The standard contact configuration of Siemens K50 ON/OFF ECR is ( )
(a) 6F/2B (b) 5F/3B (c) 4F/4B (d) 3F/3B

49) In Siemens Route Relay Interlocking, the Point detection relays NWKR and RWKR are ( )
(a) Always energized
(b) Normally energized and are de-energized when route setting is done.
(c) Always de-energized
(d) Normally de-energized and are energized when route setting is done.

50) In Siemens RRI, the Direction determining relay is ( )
(a) ZU(R/N)R (b) W(R/N)R (c) W(R/N)LR (d) (R/N) WLR

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
d	c	c	a	b	b	b	b	a	c
11	12	13	14	15	16	17	18	19	20
b	d	b	a	a	d	a	a	a	a
21	22	23	24	25	26	27	28	29	30
b	d	b	a	a	d	a	c	c	d
31	32	33	34	35	36	37	38	39	40
d	d	b	d	b	d	d	c	b	c
41	42	43	44	45	46	47	48	49	50
d	a	d	c	c	a	d	d	d	a

ST-30 : EOLB & MOLB

1) Open position of lifting barrier shall be within_____ ( )
   a. $80^0 - 85^0$ b. $80^0 - 90^0$ c. $85^0 - 90^0$ d. $70^0 - 80^0$

2) LXYPR picks up at_____ ( )
   a. relay room b. gate location box
   c. SM room d. ESM room

3) _____motor is used for EOLB ( )
   a. servo motor b. stepper motor
   c. PMDC motor d. synchronous motor

4) When booms rest on the meeting post_____switch makes in MFT EOLB ( )
   a. LS1 b. LS2 c. LS3 d. CWLS

5) _____relay is used for LXNR/LXRR in MFT EOLB ( )
   a. QNA1 b. QN1 c. QBA1 d. QBCA1

6) _____relay is used for BCR / BLFR in MFT EOLB ( )
   a. QNA1 b. QN1 c. QBA1 d. QBCA1

7) _____relay picks up for locking of booms in MFT EOLB. ( )
   a. BLFR b. BCR c. LXR d. GMR

8) _____relay picks up for unlocking of booms in MFT EOLB ( )
   a. BLFR b. BCR c. LXR d. GMR

9) It shall not be possible to lift the booms by more than_____degrees after gate is closed and locked against road traffic ( )
   a. 5 b. 0 c. 10 d. 15

10) LC gate census shall be done once in_____ ( )
   a. 1 year b. 2 year c. 3 year d. 4 year

11) ___Relay extends voltage to pedestal motor to open the gate in MFT-EOLB ( )
   a. LXRR b. LXNR c. ALXR d. BLXR

12) ___Relay extends voltage to pedestal motor to close the gate in MFT-EOLB ( )
   a. LXRR b. LXNR c. ALXR d. BLXR

13) ___relay extends voltage to meeting post motor to lock the boom in MFT EOLB( )
   a. BLFR b. BCR c. LXNR d. LXRR

14) _ relay extends voltage to meeting post motor to unlock the boom in MFT EOLB( )
   a. BLFR b. BCR c. LXNR d. LXRR

15) _____relay picks up at Location when both booms are closed, locked & slot knob reversed in MFT make EOLB. ( )
   a. LXRR b. BCR c. LXNR d. LXCLR

16) CWLS "NO" contact is used to pick up_____relay ( )
a. LXRR b. BCR c. LXNR d. LXCLR

17) _____band is used for closing of gate in MFT make EOLB ( )
a. 0^0-85^0 b. 80^0-85^0 c. 85^0-5^0 d. 0^0-5^0

18) _____band is used for snubbing in MFT make EOLB ( )
a. 0^0-85^0 b. 80^0-85^0 c. 85^0-10^0 d. 0^0-5^0

19) Snubbing resistor value in MFT make EOLB_____ ( )
a. 10Ω /100w b. 5Ω /10w c. 100Ω /10w d. 5Ω /100w

20) _____is used for picking of A/B LXR in MFT make EOLB ( )
a. LS1 b. LS2 c. CWLS d. 0^0-5^0 band

21) When booms are closed & locked at gate lodge____relay picks up in MFT make EOLB ( )
a. LXR b. BCR c. LXNR d. LXCLR

22) Range of operation for MOLB ( )
a. 300 mt b. 180 mt c. 120 mt d. 150 mt

23) Height of the booms from road surface is to be maintained between ( )
a. 0.8 mt to 1 mt b. 1 mt only
c. less than 1 mt only d. 1 mt to 1.5 mt

24) Distance between gate post and CLOT is_____mts ( )
a. 5 b. 6 c. 8 d. 20

25) Distance between gate lodge and CLOT is_____mts ( )
a. 5 b. 6 c. 8 d. 20

26) Distance between height gauge and CLOT is_____mts ( )
a. 5 b. 6 c. 8 d. 20

27) Speed breakers shall be provided at_____mts from CLOT ( )
a. 5 b. 6 c. 8 d. 20

28) Fencing shall be provided up to_____mts on either side of the gate parallel to the track ( )
a. 5 b. 6 c. 8 d. 15

29) Gate signal shall be provided not less than_____mts from Gate ( )
a. 120 b. 180 c. 300 d. 400

30) Gate Signal distance shall be measured from_____ ( )
a. end of the gate lodge b. center of gate
c. pedestal d. edge of check rail

31) Gate hooter sound must be audible up to_____meters ( )
a. 120 b. 180 c. 300 d. 400

32) _____band is used for opening of gate in MFT make EOLB ( )
a. 0^0-85^0 b. 80^0-85^0 c. 85^0-5^0 d. 0^0-5^0

33) _____Relay is used for LXYPR in RE area ( )
a. QN1 b. QNA1 c. QBCA1 d. QSPA1

34) _____relay picks up at R/room when LXCLR is picked up at Gate location in MFT make EOLB ( )
a. LXCR b. LXPR c. LXRR d. LXFR

35) ____will avoid electrical operation during crank handle operation in MFT EOLB( )
a. Cut out switch b. Limit switch c. A boom switch d. B boom switch

36) Max. length of LC gate boom is_____mts ( )
a. 9.75 b. 9.65 c. 9.85 d. 9.9

37) Working voltage of MFT make EOLB is_____ ( )
a. 24V AC b. 24V DC c. 110V DC d. 110V AC

38) Snubbing is effective while_____in MFT make EOLB ( )
a. Opening only b. locking c. closing only d. unlocking

39) _____will avoid reverse force in gear drive mechanism for MFT make EOLB ( )
a. snubbing b. drive shaft c. friction clutch d. worm gear

40) _____is provided in between Motor and Gear mechanism ( )
a. snubbing b. drive shaft c. clutch assembly d. worm gear

41) _____type relay is used for opening & closing of booms in MFT make EOLB ( )
a. QBCA1 b. QBA1 c. QN1 d. QNA1

42) ___Relay picks up when gate is closed in HEIDZ make EOLB ( )
a. RR b. BLR c. LXR d. NSR

43) ___Relay picks up when gate is locked in HEIDZ make EOLB ( )
a. RR b. BLR c. LXR d. NSR

44) ___Relay picks up when gate is closed and locked and slot reverse in HEIDZ make EOLB ( )
a. RR b. BLR c. LXR d. NSR

45) ____is used for closing in HEIDZ make EOLB ( )

a. LS1 b. LS2 c. LS3 d. LS4

46) ____is used for opening in HEIDZ make EOLB ( )

a. LS1 b. LS2 c. LS3 d. LS4

47) ____is used for snubbing in HEIDZ make EOLB ( )

a. LS1 b. LS2 c. LS3 d. LS4

48) ____is used in RR circuit of HEIDZ make EOLB ( )

a. LS1 b. LS2 c. LS3 d. LS4

49) NSR relay picks up when gate is_____in HEIDZ make EOLB ( )

a. Close b. Open c. Lock d. Unlock

50) Solenoid coil resistance is_____ohms in HEIDZ make EOLB ( )

a. 5 b. 25 c. 48 d. 100

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	b	c	d	d	b	b	a	c	c
11	12	13	14	15	16	17	18	19	20
b	a	b	a	d	b	c	c	d	a
21	22	23	24	25	26	27	28	29	30
a	d	a	a	b	c	d	d	b	d
31	32	33	34	35	36	37	38	39	40
c	a	b	a	a	a	b	c	d	c
41	42	43	44	45	46	47	48	49	50
a	a	b	c	a	b	c	d	b	b

ST-31a : ELECTRONIC INTERLOCKING

1) Prime inputs for the EI Interface design are ---------- ( )
   a) SIP, FPD and RCC b) card files c) Software d) cables

2) The calculation of EI card file /OC/Housing is mainly depends on----------( )
   a) Communicationports b) Vital & Non vitalbitchart
   c) Software d) both a & b

3) In EI, applicationsoftwareis----------. ( )
   a) Common toallstations b) Stationspecific
   c) Similar toExecutivesoftware d) both a & c

4) In case of DistributedEI_____cable is required for communication. ( )
   a) Signalingcable b) Optical Fiber Cable
   c)Quad cable d) Power cable

5) In Electronic interlocking system, executive softwareis---------- ( )
   a) Stationspecific.
   b) Common to all EI's.
   c) Common to all EI's of same model of sameOEM
   d) Separately notrequired.

6) When any unsafe failures are detected by an EI ---------- ( )
   a) System is steady b) Supply voltage to non vital outputs cuts off
   c) No action takes place d) System shutdown and all outputs withdrawn

7) External Data logger provision to EI is ---------- ( )
   a) Not mandatory b) Mandatory
   c) It is a part of EI Hardware d) It is a part of VDU

8) By using Object Controllers ---------- ( )
   a) number of inputs can be minimized
   b) main signaling cable can be eliminated due to OFC communication
   c) number of outputs can be minimized
   d) EI cost is reduced.

9) The ---------- converts High level language to Machine Language ( )
   a) EI Converter b) Modem
   c) Compiler d) Reverse compiler

As per latest guide lines ---------- standby set up is to be used in EI. ( )
   a) Cold standby b) Warm standby
   c) Power backup d) Hot Standby.

10) ---------- cable is required for the VDU connectivity with EI ( )
   a) 2.5 sq.mm signaling cable b) 1.5 Sq mm Signaling cable
   c) power cable d) OFC

11) The vital output card in an EI ---------- ( )
a) Drives INPUT b) Drives OUTPUT relays
c) part of CPU d) 12 V DC

12) The EI application logic is loaded in to ---------- ( )
a) Non Vital I/O card b) CPU card
c) Output card d) CPU and Out put cards.

13) The EI application logic is loaded into ---------- ( )
a) Maintenance terminal b) CPU card
c)Output card d) CPU and Outputcards.

14) earthing arrangement is required for EI ( )
a) Conventional earthing b) Single MFE
c) Perimeter/ring d) None

15) The external Data logger can be connected to EI through---------- ( )
a) Protocol converter b) Flash EPROMs
c) Ring modem. d) USB

16) ---------- safety Integrity level to be maintained for Hardware of any EI ( )
a) SIL 1 b) SIL 2 c) SIL 3 d) SIL 4

17) Based on Non Vital I/O bit calculation, ---------- can be calculated. ( )
a) Panel processor cards b) wires count
c) Power supply details d) communication details

18) Self integrity test is the inbuilt feature of---------- ( )
a) EI b) RRI c) Track circuit d) PI

20) The Reverse Compiler converts ---------- ( )
a) The Source code b) Machine language to High level Language
c) High level language to Machine Language d) RS 232 into OFC

21) ----------is connected through Protocol converter ( )
a) The external Data logger b) Flasher EPROM
c) RS232-OFC converter d) OFC patch cord

22) The interface between CCIP and the EI is called_____ ( )
a) OCI b) VDUCT c) PP d) NV I/O card

23) SIL 4 safety integrity level is required for ( )
a) VDU Hardware b) MTC c) VDU software d) EI Hardware

24) ---------- contacts are used as Read back contacts ( )
a) Vital in put Relay b) Vital output Relay
c) Non Vital d) Event logger

25) NWKRs, RWKRs are treated as_____to the Electronic Interlocking system ( )
A) Vital in puts B) Vital outputs
C) Non Vital Inputs D) Non Vital outputs

26) HRs, DRs are treated as_____to the Electronic Interlocking system ( )
A) Vital in puts B) Vital outputs
C) Non Vital Inputs D) Non Vital outputs

27) LXCR is treated as_____to the EI ( )
A) Vital inputs B) Vital outputs
C) Non Vital Inputs D) Non Vital outputs

28) Based on the station interlocking circuits_____program is prepared ( )
A) Application B) Executive
C) Station Data D) Communication

29) ----------is used as an operating interface to the EI ( )
A) Object controller B) Maintenance PC
C) VDU/OPC D) Data logger

30) Executive program is loaded in to ---------- ( )
A) Data EPROMs B) Executive EPROMS
C) I/O connecters D) embedded PC

31) MLK-II EI is provided with_____feature ( )
A) 2 out of 2 decision B) 2 out of 3 decision C) CRC D) none

32) MLK-II EI is having redundancy in_____ ( )
A) hardware B) software C) both D) none

33) In MLK-II EI, card file can have maximum_____number of slots ( )
A) 10 B) 20 C) 30 D) 40

34) In MLK-II EI,_____PCBs will occupy two slots in card file ( )
A) Power Supply B) CPU C) both A & B D) none

35) In MLK-II EI, CPU card is placed in_____slots of a card file generally ( )
A) 16^{th} & 17^{th} B) 18^{th} & 19^{th} C)19^{th}&20^{th} D) none

36) In MLK-II EI, Power Supply card is placed in_____slots of a card file generally( )
A) 16^{th} & 17^{th} B) 18^{th} & 19^{th} C)19^{th}&20^{th} D) none

37) In MLK-II EI, each Card File CPU can replace the____internal circuit relays ( )
A) 2000 B) 3000 C) 4000 D) 5000

38) In MLK-II EI, each Card File CPU can control the_____routes of a station ( )
A) 200 B) 300 C) 400 D) 500

39) In MLK-II EI, normal input supply given to PS PCB is_____volts DC ( )
A) 12 B) 24 C) 60 D) 110

40) In MLK-II EI, the constant output supply from PS PCB is_____ ( )
A) +24v, +12v & +5v B) +12v, –12v & +5v
C) +12v, –12v & +24v D) +12v, –12v & +60v

41) In MLK-II EI, VCOR has_____type of contacts ( )
A) independent B) dependent C) both D) none

42) In MLK-II EI, VCOR has_____contact combinations ( )
A) 6F/6B B) 8F/8B C) 6F/B D) 8F/B

43) In MLK-II EI, VCOR gets feed from _____PCB ( )
A)CPU B) PS C)both D)none

44) In MLK-II EI, supply to VCOR is controlled by_____PCB ( )
A)CPU B) PS C)both D)CPU

45) In MLK-II EI, supply to VCOR is given when_____signal is received ( )
A) CPU B) CPS C) CRC D) none

46) In MLK-II EI, CPS signal is generated by_____card ( )
A) CPU B) PS C) both D) none

47) In MLK-II EI, CPS signal is received by_____card ( )
A) CPU B) PS C) both D) none

48) In MLK-II EI, CPS signal frequency is_____Hz ( )
A) 50 B) 150 C) 250 D) none

49) In MLK-II EI, VCOR front contacts controls the power supply of___circuits ( )
A) Vital Input B) Vital Output C) NV input D) NV output

50) In MLK-II EI, CPS signal is generated as far as _ is intact & working properly( )
A) hardware B) software C) both D) VDU

51) In MLK-II EI, if system is malfunctioning then CPS signal is withdrawn by _ ( )
A) CPU PCB B) PS PCB C) both D) none

52) In MLK-II EI, if CPS signal is withdrawn, then supply to VCOR cuts off by _ ( )
A) CPU PCB B) PS PCB C) both D) none

53) In MLK-II EI,_____software is common for all station's CPU cards ( )
A) Executive B) application logic C) both D) none

54) In MLK-II EI,_____software is different for all station's CPU cards ( )
A) Executive B) application logic C) both D) none

55) In MLK-II EI, Executive software version is displayed on _ of CPU front panel( )
A) upper display B) lower display C) both D) none

56) In MLK-II EI, application software version is displayed on _ of CPU front panel( )
A) upper display B) lower display C) both D) none

57) In MLK-II EI, Upper & Lower displays of CPU scrolls the information with __ character type displays ( )
A) 4-numeric B) 4-alfa numeric C) 4-alfa D) none

58) In MLK-II EI, CPU PCB has____number of communication serial link ports ( )
A) 3 B) 4 C) 5 D) 6

59) In MLK-II EI, port no.____is provided on CPU front panel ( )
A) 3 B) 4 C) 5 D) 6

60) In MLK-II EI, application logic program can be downloaded or uploaded with( )
A) port no. 3 B) port no. 4 C) port no. 5 D) port no. 6

61) In MLK-II EI, Port-1 & Port-2 of CPU card is campatable with_ ( )
A) RS 232 B) RS 423/232 C) RS 485 D) all

62) In MLK-II EI, Port-4 & Port-5 of CPU card is campatable with_ ( )
A) RS 232 B) RS 423/232 C) RS 485 D) all

63) In MLK-II EI, Port-3 of CPU card is campatable with_____ ( )
A) RS 232 B) RS 423/232 C) RS 485 D) all

64) In MLK-II EI, date & time can be adjusted through_____ ( )
A) toggle switches on CPU PCB front panel B) Maintenance PC
C) Both A & B D) None

65) In MLK-II EI, resetting can be done through_____ ( )
A) toggle switches on CPU PCB front panel B) Maintenance PC
C) Both A & B D) None

66) In MLK-II EI, CPU PCB is stored with_____data for accessing & analyzing ( )
A) user B) event C) error D) all

67) In MLK-II EI, CPU PCB can store user data up to_____information ( )
A) 90,000 B) 5,000 C) 50 D) none

68) In MLK-II EI, CPU PCB can store event data up to_____information ( )
A) 90,000 B) 5,000 C) 50 D) none

69) In MLK-II EI, CPU PCB can store error data up to_____information ( )
A) 90,000 B) 5,000 C) 50 D) none

70) In MLK-II EI, CPS means_____ ( )
A) Cycles per Second B) Conditional Power Supply
C) Checks Pulse of Signal D) none

71) In MLK-II EI, Port no. 5 of CPU PCB is named as_____port ( )
A) Maintenance B) Diagnostic C) debug D) all

72) In MLK-II EI, Port no. 5 of CPU PCB is connected to_____ ( )
A) Laptop B) Maintenance PC C) A or B D) both A & B

73) In MLK-II EI, CPU PCB has 4 numbers of____for storing software ( )
A) RAMs B) Flash EPROMs C) EEPROM D) none

74) In MLK-II EI, Application & Executive software of CPU is stored in_____( )
A) 4 nos. of Flash EPROMs B) EEPROM
C) 4 nos. of Low power Static Ram D) 2 nos. of Fast Static Ram

75) In MLK-II EI, Vital Data Processing in CPU is done by_____ ( )
A) 4 nos. of Flash EPROMs B) EEPROM
C) 4 nos. of Low power Static Ram D) 2 nos. of Fast Static Ram

76) In MLK-II EI, Event / Error Data is stored in CPU by_____ ( )
A) 4 nos. of Flash EPROMs B) EEPROM
C) 4 nos. of Low power Static Ram D) 2 nos. of Fast Static Ram

77) In MLK-II EI, CPU card top pin connector assembly PCB has____for storing site specific configuration data ( )
A) EPROMs B) Flash EPROMs C) EEPROM D) none

78) In MLK-II EI, the site specific configuration is____for all stations ( )
A) same B) different C) both D) common

79) In MLK-II EI, site specific configuration data is___if CPU card is removed ( )
A) deleted B) remains intact C) changed D) none

80) In MLK-II EI, Minimum System Start-Up voltage is___ ( )
A) 12v DC B) 12v AC C) 11.5v DC D) 11.5v AC

81) In MLK-II EI, the processor used in CPU card is___ ( )
A) Motorola 68832 B) Motorola 68332 C) Motorola 68322 D) None

82) In MLK-II EI, maximum _ no. of inputs can be connected to vital Input card ( )
A) 8 B) 16 C) 32 D) 64

83) In MLK-II EI, each vital output card can drive_____relays ( )
A) 8 B) 16 C) 32 D) 64

84) In MLK-II EI, Max.____no. of I/O can be connected to Non-Vital I/O card ( )
A) 8 B) 16 C) 32 D) 64

85) In MLK-II EI, Top & Bottom pin connectors for Non-Vital I/O PCB has____( )
A) 48 & 48 B) 48 & 96 C) 96 & 96 D) none

86) In MLK-II EI, Top & Bottom pin connectors of 48 & 96 is provided for___card( )
A) Power Supply B) Vital Input & Output C) CPU D) All

87) In MLK-II EI, for____Address Select PCB is connected on top pin connector ( )
A) NV I/O cards B) Power Supply card C) CPU card D) All

88) In MLK-II EI, for____Address Select PCB is connected on top pin connector ( )
A) NV I/O cards B) Vital Output card C) Vital Input card D) All

89) In MLK-II EI, on Address Select PCB____nos. of jumpers are provided ( )
A) 4 B) 6 C) 8 D) 12

90) In MLK-II EI,____arrangement is provided to prevent plugging of wrong PCB( )
A) Jumpers B) Keying Plugs C) EEPROM D) none

91) In MLK-II EI, In Keying plug arrangement_____plugs are provided out of _____positions ( )
A) 3, 6 B) 6, 12 C) 5, 16 D) none

92) In MLK-II EI, Keying plug arrangement is provided adjacent to _ connector ( )
A) Top B) Bottom C) Both D) none

93) In MLK-II EI,___pin connector is used for physical wiring ( )
A) Top B) Bottom C) Both D) none

94) In MLK-II EI,____circuits are provided with single cutting arrangement ( )
A) Non-vital Input B) Non-vital Output C) Vital Output D) all

95) In MLK-II EI,____circuits are provided with double cutting arrangement ( )
A) Non-vital Input B) Non-vital Output C) Vital Output D) Vital Input

96) In MLK-II EI,_____circuits are protected with poly switches ( )
A) Non-vital Output B) Vital Output C) Both A & B D) None

97) In MLK-II EI,_____relay ensures fail safe functioning of system ( )
A) PCOR B) MCOR C) VCOR D) None

98) VCOR Relay contacts current carrying capacity is_____Amp ( )
A) 1A B) 3A C) 5A D) 0.5A

99) Normal working current of VCOR is_____ ( )
A) 3 ma B) 3 A C) 30 ma D) 30 A

100) In MLK-II EI,___circuit is provided with high side software controlling switch ( )
A) Non-vital Input B) Non-vital Output C) Vital Output D) Vital Input

101) MEI 633 is of ---------- architecture ( )
a) 2 Out of 2 b) 1 Out of 1 c) 2 Out of 3 d) 2 Out of 4

102) Cycle time in MEI633 is ---------- ( )
a) 222ms b) 111ms c) 444ms d) 333ms

103) Intercommunication between MEI633 and the OCs is ---------- ( )
a) CLA b) RS-232/OFC c) RS 485/OFC d) RS-423

104) Input supply for the Mini IPS provided in Medha EI room is ---------- ( )
a) 24V DC b) 230V AC c) 110V AC d) 110V DC

105) The output supply of Dc-Dc converters in the Mini IPS of MEI 633 is -------( )
a) 24V DC b) 12V DC c) 110V DC d) 60V DC

106) Inter communication between MEI 633 and data logger is ---------- ( )
a) RS-485/OFC b) CLA
c) RS-232/OFC d) RS-423

107) Max No of OCs that can be connected to MEI 633 is ---------- ( )
a) 64 b) 128 c) 16 d) 32

108) Max No of Input cards can be provided in each OC is ------ in MEI 633 ( )
a) 6 b) 4 c) 5 d) 3

109) Max No of output cards can be provided in each OC is ----- in MEI 633 ( )
a) 6 b) 4 c) 5 d) 3

110) Max No of inputs can be connected to each Vital I/P card is -- in MEI 633 ( )
a) 8 b) 16 c) 32 d) 12

111) MEI 633, max. no. of outputs can be connected to each Vital O/P card is --( )
a) 4 b) 16 c) 32 d) 8

112) --------- type of power supply card is provided for CVC/VIC card in MEI 633 ( )
a) B TYPE b) C TYPE c) A TYPE d) D TYPE

113) -------- type of power supply card is provided for CCC card in MEI 633. ( )
a) B TYPE b) C TYPE c) A TYPE d) D TYPE

114) -------- type of power supply cards are provided for OCs in MEI 633. ( )
a) A & B TYPE b) B & C TYPE
c) C & D TYPE d) A & D TYPE

115) --------- type of power supply cards are provided for PP in MEI 633. ( )
a) A & B TYPE b) B & C TYPE
c) C & D TYPE d) A & D TYPE

116) --------- No of Rs485 serial ports are available at CIU in MEI 633 ( )
a) 16 b) 12 c) 8 d) 10

117) --------- No of Rs232 serial ports are available at CIU in MEI 633 ( )
a) 3 b) 8 c) 4 d) 2

118) ERROR messages are displayed on ---------- of CIU in MEI 633 ( )
a) FDP b) FMS c) VIF d) FPD

119) Max No of vital I/Os that can be handled by an CIU of MEI 633 is ----- ( )
a) 4072 b) 2048 c) 1048 d) 3072

120) Max No of Non vital I/Os that can be handled by an CIU of MEI 633 --- ( )
a) 4072 b) 2048 c) 1048 d) 3072

121) In Medha EI, RM means ---------- ( )
a) Random Memory b) Relay Module
c) Ring Modem d) Repetition Maximum

122) In Medha EI, RMs acts like---------- converter ( )
a) Serial to OFC b) serial to parallel
c) Parallel-OFC d) serial-USB

123) In each port of CIU ---------- No of OCs can be connected in MEI 633. ( )
a) 8 b) 6 c) 4 d) 32

124) CIF card is used in ---------- in MEI 633 ( )
a) OC b) PP c) MT d) CIU

125) In MEI 633, The rated voltage of VCOR---------- ( )
a) 12V DC b) 5 V DC c) 60V DC d) 24V DC

126) MEI 633 has ---------- standby arrangement ( )
a) Hot b) Warm c) Cold d) None

127) Max response time for MEI 633 is ---------- ( )
a) < 1 sec b) < 2 sec c) < 3 sec d) < 4 sec

128) Intercommunication between MEI 633 and the PP is ---------- ( )
a) Parallel b) Rs-232 c) OFC d) Rs-423

129) Input supply for the PSB cards provided in Medha EI is ---------- ( )
a) 5V DC b) 24V DC c) 12V DC d) 4.8V DC

130) The output supply of PSB in MEI 633 is ---------- ( )
a) 4.5V DC b) 5.5V DC c) 4.8V DC d) 5.8V DC

131) ---------- communication channel provide between MEI 633 and MTC ( )
a) Rs-423 b) Rs-232 c) CLA d) Rs-485

132) Max No of CIUs that can be inter connected to MEI 633 is ---------- ( )
a) 2 to 4 b) 2 to 6 c) 2 to 5 d) 2 to 3

133) Max No of RS 485 channels provided in each CIU is ---------- ( )
a) 8 b) 12 c) 10 d) 16

134) Max No of RS 232 channels provided in each CIU is ---------- ( )
a) 6 b) 5 c) 4 d) 3

135) Max No of I/Ps connected to each NV Input card of PP ----- in MEI 633 ( )
a) 8 b) 16 c) 64 d) 128

136) Max no of O/Ps can be connected to each NV O/P card of PP -- in MEI 633( )
a) 8 b) 16 c) 128 d) 64

137) 'A' - type of power supply card is provided for _____ in MEI 633. ( )
a) CIU b) OC c) COUNTER BOX d) PP

138) 'C'-type of power supply card is provided for ---------- in MEI 633 ( )
a) CIU b) OC c) COUNTER BOX d) PP

139) 'B'-type of power supply cards are provided for ---------- in MEI 633 ( )
a) CIU b) Mini IPS c) MTC d) Data logger

140) Voltage & Current rating of 'B' type of power supply cards ------ in MEI 633 ( )
a) 4.5V @ 8A b) 4.5V @ 3A c) 4.5V @ 6A d) 4.5V @ 2A

141) Voltage & Current rating of 'C' type of power supply cards ----- in MEI 633 ( )
a) 4.5V @ 8A b) 4.5V @ 3A c) 4.5V @ 6A, 5.8@ 2A d) 4.5V @ 2A

142) Voltage & Current rating of 'A' type of power supply cards ---- in MEI 633 ( )
a) 4.5V @ 8A b) 4.5V @ 3A c) 4.5V @ 6A d) 4.5V @ 2A

143) Counter digits are displayed on ---------- in MEI 633 ( )
a) CIU b) OC c) COUNTER BOX Module d) PP

144) Max No of Routes that can be handled by an CIU of MEI 633 --------- ( )
a) 250 b) 350 c) 450 d) 550

145) ---------- type of SPD is provided in 24V DC supply in MEI 633 ( )
a) A b) B c) C d) D

146) WFM means ---------- in MEI 633 ( )
a) Point function module b) Point frequency module
c) Wayside function module d) Wayside frequency module

147) WFP means ---------- in MEI 633 ( )
a) Warm function processor b) Warm frontend processor
c) Wayside frontend processor d) Wayside function processor

148) In each port of CIU ------- No of PPs / VDUs can be connected in MEI 633 ( )
a) 4 b) 3 c) 2 d) 1

149) ORLD card is used in ---------- in MEI 633 ( )
a) CIU b) OC c) COUNTER BOX d) PP

150) The rated current of VCOR ---------- in MEI 633 ( )
a) 4 b) 3 c) 2 d) 1

151) WESTRACE EI has ------ Architecture ( )
a) 1 out of 2 logic b) 1 out of 1 logic
c) 2 out of 2 logic d) 2 out of 1 logic

152) VLM means ---------- in Westrace EI. ( )
a) Vital link model b) Vital link module
c) Vital logic model d) Vital logic module

153) NCDM means ---------- in Westrace EI. ( )
a) Network centre debug module
b) Network centre diagnosis model
c) Network communication debug module
d) Network communication diagnostic module

154) VLM includes ---------- in Westrace EI. ( )
a) VLC & PFM b) VLC & PSU
c) VLC & OPC d) VLC& VLOM

155) NCDM includes ---------- in Westrace EI. ( )
a) NCDC & PFM b) NCDC& PSU
c) NCDC & OPC d) NCDC & VLOM

156) WESTCAD is used for ---------- in Westrace EI. ( )
a) MT b) VDU c) PP d) CTC

157) MOVOLAW is used as ---------- in Westrace EI. ( )
a) MT b) VDU c) PP d) CTC

158) One WESTRACE consists of Max ---------- Housings in Westrace EI. ( )
a) 1 b) 2 c) 3 d) 4

159) One Housing consists of ---------- No of slots in Westrace EI. ( )
a) 14 b) 16 c) 18 d) 20

160) First Housing can accommodate Max ---------- I/O Modules in Westrace EI. ( )
a) 9 b) 7 c) 5 d) 3

161) Other than 1st Housing can accommodate max ----------I/O Modules in Westrace EI. ( )
a) 9 b) 7 c) 5 d) 3

162) VLM to be located in ---------- slots in Westrace EI. ( )
a) 1 & 2 b) 2 & 3 c) 3 & 4 d) 4 & 5

163) NCDM to be located in ---------- slots in Westrace EI. ( )
a) 1 b) 2 c) 3 & 4 d) 4

164) In WESTRACE EI, Vital O/P module is named as ----- in Westrace EI. ( )
a) VPOM b) VIOM c) VROM d) VLOM

165) In WESTRACE EI, Vital I/P module is named as ------ in Westrace EI. ( )
a) VPIM b) VRIM c) VLIM d) VIOM

166) In WESTRACE EI, Max No of I/Ps that can be connected to a Vital I/P module is ---------- ( )
a) 8 b) 10 c) 12 d) 16

167) In WESTRACE EI, Max No of O/Ps that can be connected to a Vital O/P module is ---------- ( )
a) 8 b) 10 c) 12 d) 16

168) How many WETRACE EI units can be interconnected? ( )
a) 8 b) 10 c) 12 d) 16

169) NCDM consists of ---------- Serial COM ports in Westrace EI. ( )
a) 1 b) 2 c) 3 d) 4

170) NCDM consists of ---------- Ethernet COM ports in Westrace EI. ( )
a) 1 b) 2 c) 3 d) 4

171) NCDM consists of ---------- OFC ports in Westrace EI. ( )
a) 1 b) 2 c) 3 d) 4

172) IHCL is used for ---------- in Westrace EI. ( )
a) Interconnects between VLC & OPC
b) Interconnects between VLM & NCDM
c) Intercommunication between NCDM to NCDM
d) Intercommunication between VLM to VLM

173) INCL is used for ---------- in Westrace EI. ( )
a) Interconnects between VLC & OPC
b) Interconnects between VLM & NCDM
c) Intercommunication between NCDM to NCDM
d) Intercommunication between VLM to VLM

174) WESTRACE EI can be connected through ---------- port . ( )
a) SERIAL b) ETHERNET c) OFC d) PARALLEL

175) PFM means ---------- in Westrace EI. ( )
a) Power Factor Module b) Power filter module
c) Protection factor module d) Protection filter module

176) OPCR works on ---------- voltage in Westrace EI. ( )
a) 12V DC b) 24V DC c) 50V DC d) 60V DC

177) In WESTRACE EI, the RJ 45 connector is provided in ---------- card ( )
a) VLM b) NCDM c) VPIM d) VROM

178) In WESTRACE EI, OFC ports are provided in ---------- card ( )
a) VLM b) NCDM c) VPIM d) VROM

179) VDU is to be connected to ---------- port in Westrace EI. ( )
a) Ethernet b) OFC c) Parallel d) Serial / Ethernet

180) Moviolaw can be connected to ---------- port ( )
a) Ethernet / serial b) OFC c) Parallel d) Serial

181) In WESTRACE EI, External data logger can be connected to --------- port ( )
a) Serial b) Parallel c) OFC d) Ethernet

182) System Input supply for the WESTRACE EI is -------- ( )
a) 12v & 60v DC b) 24v & 50v DC
c) 24v & 60v DC d) 12v & 60 v DC

183) In WESTRACE EI, Slot No --------- is dedicated for PSU ( )
a) 1 b) 2 c) 15 d) 16

184) In WESTRACE EI, blank slot is filled with ---------- ( )
a) OPC card b) Blanker card c) VPIM card d) VROM card

185) In WESTRACE EI, Slot no 1&15 in the1st Housing filled with ---------- ( )
a) VROM card b) VPIM card c) Blanker card d) VLOM card

186) In WESTRACE EI, VSEV means ---------- ( )
a) Virtual serial emergency voltage b) Vital serial enable voltage
c) Virtual serial enable voltage d) Vital serial emergency voltage

187) In WESTR\ACE EI, VSEV voltage is meant for ---------- ( )
a) OPCR energization b) Hot standby synchronization
c) Warm standby d) Stand alone working

188) In WESTRACE EI, VSEV voltage is ---------- ( )
a) 5v DC b) 12v DC c) 24v DC d) 50v DC

189) In WESTRACE EI, the ---------- is provided as mini mother board for VLM & NCDM ( )
a) UHVBC b) UHVLM c) UHNCDM d) UHPSU

190) In WESTRACE EI, One PSU can be connected to Max ---------- Housings. ( )
a) 4 b) 3 c) 2 d) 1

191) Max ------ No of I/O modules can be accommodated in an WESTRACE ( )
a) 16 b) 26 c) 14 d) 12

192) The output voltage of VROM is ---------- in Westrace EI. ( )
a) 5v DC b) 12v DC c) 24v DC d) 50v DC

193) ---------- voltage relays used as Vital O/P relays in the WESTRACE EI ( )
a) Q Series 50v b) Q Series 12v c) K-50 60v d) Q series 24v

194) ---------- voltage relays used as Vital I/P relays in the WESTRACE EI ( )
a) Q Series 50v b) Q Series 12v c) K-50 60v d) Q series 24v

195) Input range of PSU in WESTRACE EI is ---------- ( )
a) 10-18v DC b) 15-25V DC c) 18-30V DC d) 16.5-26.5V DC

196) PCGE is used for ---------- generation in Westrace EI. ( )
a) User data log files b) Application logic files
c) Station Layout files for VDU d) Maintenance tool files

197) The interlocking circuits in the WESTRACE EI is called as ---------- ( )
a) Rings b) Rungs c) Rongs d) Rangs

198) ---------- logic is used for writing WESTRACE Application program ( )
a) Ladder b) Gate c) Maxwell d) Boolean

199) In WESTRACE EI, PFM is used as ---------- ( )
a. SPD b. LPD c. MOV d. ELD

200) CAT 5 cable is used for -------- communication in WESTRACE EI. ( )
a. Serial b. OFC c. Parallel d. Ethernet

201) K5BMC EI is designed to meet_____Standards ( )
(a)CENELEC SIL-4 (b) CENELEC SIL-3 (c) RDSO (d) IRS

202) One K5BMC Logic Sub rack can handle up to_____routes approximately. ( )
(a) 400 (b) 300 (c) 350 (D) 100

203) K5BMC EI System implements_____hard ware architecture ( )
(a)Two-out-of-Two (b) two-out-of-Three (c) One-out-of-Two (D) none of the above

204) IPU6C card is a ( )
(a)CPU card (b) power supply card (c) Communication card (D) output card

205) F486-4I card is a ( )
(a)CPU card (b) power supply card (c) Communication card (D) output card

206) IC card is located in ( )
(a)CPU card (b) power supply card (c) Communication card (D) output card

207) The minimum required capacity of IC card is ( )
(A) 32mb (b) 124mb (c) 16mb (D) 16kb

208) FSIO along with_____card is used for communication with ET sub-racks and MTC ( )
(a)CPU card (b) F107 (P) (c) Communication card (D) LINE2B

209) FI07 [P] has _____no .of multimode fiber channels. ( )
(a) 06 (b) 02 (c) 05 (D) 10

210) FIO7 [P] is a _____Convertor PCB. ( )
(a)Multi-mode to single mode(b) electrical to optical (c) optical to electrical (D) Both B&C

211)for one FI07 (P) Channel, max. of_____I/O boards can be connected ( )
(a) 20 (b) 02 (c) 15 (D) 10

212) FSIO-EX is an extension card of _____ ( )
(a)FSIO (b) F107 (P) (c) DND (D) LINE2B

213) SPHC-TT is a _____ ( )
(a)Power supply card(b) optical splitter card (c) optical converter card (D) Communication card

214) SPHC-TT splits one optical channel into____ optical channels ( )
(a) 05 (b) 02 (c) 03 (D) 04

215) FRMC is a_____ ( )
(a)Power supply card (b) optical splitter card (c) optical mode converter card (D) card

216) FRMC converts _____communication to_____ and vice versa. ( )
(a)Multi-mode to single mode (b) Single mode to multi-mode (c) optical to electrical (D) both A&B

217) LK7C logic sub rack consists_____no of slots. ( )

(a) 20 (b) 02 (c) 15 (D) 10

218) LK7C logic sub rack various cards inter communicates using_____ ( )

(a)FSIO (b) VME BUS (c) DND (D) LINE2B

219) VME BUS is a _____ ( )

(a)Hardware (b) Software (c) PCB (D) Channel

220) IC card consists___ no.of executive files &____no.of application software files ( )

(a) 06 and 05 (b) 02 and 03 (c) 03 and 04 (D) 04 and 05

221) ET Sub rack is a_____ module of K5BMC system. ( )

(a)Vital I/O module (b) non-Vital I/O module (c) logic module (d) all of the above

222) LINE2B card is used for_____ ( )

(a)Power supply (b) Communication (c) all of the above (D) none of the above

223. In one ET, max.of_____PIO2-LOG cards & ___LINE2B cards can be accommodated ( )

(a) 05 and 03 (b) 05 and 02 (c) 02 and 10 (D) 04 and 10

224) PIO2-LOG card is a _____ ( )

(a)Vital I/O PCB (b) non-Vital I/O PCB (c) Communication PCB (d) none of the above

225) One PIO2-LOG card supports_____ ( )

(A) 32 i/ps and 32 o/ps (b) 32 i/ps (c) 16 i/ps (D) 8 i/ps

226) Vital input wire color is _____. ( )

(a) Yellow (b) black (c) red (d) Blue

227) Vital output wire color is _____. ( )

(a) Blue (b) black (c) red (d) both B&C

228) EXT FIO7 [P] has _____no .of multimode fiber channels. ( )

(a) 06 (b) 02 (c) 03 (D) 10

229) In FSIO, Communication channel___ used for MTC in bigger yard ( )

(a) CN1 (b) CN3 (c) CN51 (D) CN2

230) In k5bmc EI, aspect lamp circuit fuse rating is ( )

(a) 6A (b) 600mA (c) 2A (D) 1A

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
a	c	b	b	b	d	b	b	c	d
11	12	13	14	15	16	17	18	19	20
d	b	b	c	a	a	d	a	a	b
21	22	23	24	25	26	27	28	29	30
a	c	d	b	a	b	a	a	c	b
31	32	33	34	35	36	37	38	39	40
C	D	B	C	B	A	C	B	A	B
41	42	43	44	45	46	47	48	49	50
B	C	B	A	B	A	B	C	B	C
51	52	53	54	55	56	57	58	59	60
A	B	A	B	A	B	B	C	C	C
61	62	63	64	65	66	67	68	69	70
C	A	B	C	C	D	A	B	C	B
71	72	73	74	75	76	77	78	79	80
D	C	B	A	D	C	C	B	B	C
81	82	83	84	85	86	87	88	89	90
B	B	B	D	C	D	A	D	B	B
91	92	93	94	95	96	97	98	99	100
B	B	A	D	D	C	C	B	C	C
101	102	103	104	105	106	107	108	109	110
a	d	c	d	a	c	d	c	d	a
111	112	113	114	115	116	117	118	119	120
d	a	a	b	a	b	a	d	b	d
121	122	123	124	125	126	127	128	129	130
c	a	c	d	d	a	c	c	b	d
131	132	133	134	135	136	137	138	139	140
b	a	b	d	c	d	d	b	a	b
141	142	143	144	145	146	147	148	149	150
c	a	c	c	d	c	d	a	b	b
151	152	153	154	155	156	157	158	159	160
b	d	d	c	c	b	a	d	b	c
161	162	163	164	165	166	167	168	169	170
b	b	d	c	a	c	a	d	c	a
171	172	173	174	175	176	177	178	179	180
b	d	c	a	d	c	b	b	d	a
181	182	183	184	185	186	187	188	189	190
a	b	d	b	c	b	b	c	a	c
191	192	193	194	195	196	197	198	199	200
b	d	a	d	c	c	b	a	a	d
201	202	203	204	205	206	207	208	209	210
a	b	a	b	a	a	c	b	c	d
211	212	213	214	215	216	217	218	219	220
c	a	b	b	c	d	a	b	a	a
221	222	223	224	225	226	227	228	229	230
a	a	b	a	a	d	d	c	c	b

ST-31b : DATA LOGGER

1) In EFFTRONICS Data logger, capacity of each Digital input card is___inputs ( )
   a) 16 b) 32 c) 64 d) 512

2) In Efftronics Data logger, all Digital inputs are scanned at the rate of___ ( )
   a) 16 m.sec b) 32 m.sec c) less than 1 sec d) 1 min.

3) In Efftronics Data loggers, all the Analog inputs are scanned at the rate of ( )
   a) less than 3 m.sec b) less than 2 m.sec
   c) less than 1 sec d) less than 1 min.

4) Max. Digital input capacity of each DSU in Efftronics Data logger system is___( )
   a) 64 b) 512 c) 1024 d) 4096

5) Max. Digital input capacity of Efftronics Data logger system is_____ ( )
   a) 64 b) 512 c) 1024 d) 4096

6) Max. Analog input capacity of Efftronics Data logger system is_____ ( )
   a) 24 b) 48 c) 64 d) 96

7) In Efftronics Data loggers, additional DSU is required only when the system is required to be connected with more than____no. of relays ( )
   a) 64 b) 512 c) 1024 d) 4096

8) In Efftronics Data logger, each DSU is provided with maximum_____no. of Digital input cards. ( )
   a) 4 b) 8 c) 12 d) 16

9) In Efftronics Data logger, each ASU is provided with_____no. of Analog input cards. ( )
   a) 4 b) 2 c)6 d) 8

10) In Efftronics Data logger, each Analog input card can be connected with _____no. of Analog inputs. ( )
   a) 4 b) 2 c)6 d) 8

11) In Efftronics data logger, the total Analog input capacity of each ASU is ( )
   a) 4 b) 8 c) 16 d) 32

12) In Efftronics data logger, each digital input will carry_____current ( )
   a) 10 mA b) 5 mA c) 15 mA d) 20 mA

13) FEP means_____ ( )
   a) Feed end program b) Feed end processor
   c) Front end processor d) none

14) The Central Monitoring Unit is capable of_____ ( )
   a) collects the data from the FEP b) stores data
   c) processes for report generation and analysis d) All above

15) CPU Module has___ports for serial communication in Efftronics data logger ( )
a) 4 b) 8 c) 16 d) 32

16) In Efftronics data logger,_____voltage is taken for digital / PFC contacts ( )
a) +ve 24 VDC EXT b) -ve 24 VDC EXT
c) DL GND d) Any one of the above

17) _____Microprocessor used in Efftronics data logger ( )
a) 68332 b) 68000 c) 6800 d) 66000

18) In Efftronics data logger, the analog AC voltages shall be_____ ( )
a) Given directly to DL
b) Converted to DC voltage and fed to DL
c) connected to 1:1 transformer and fed to DL
d) all

19) In Efftronics data logger if CPU module is running normally, on front side of display the following_____will be in “ON” position ( )
a) Power LED b) Run LED c) Health LED d) all

20) Rating of DC-DC converter for up to 1024 inputs data logger____ ( )
a) 5A b) 10A c) 15A d) 32A

21) Rating of DC-DC converter for 1025 to 2048 inputs data logger____ ( )
a) 5A b) 10A c) 15A d) 32A

22) Rating of DC-DC converter for 2049 to 4096 inputs data logger____ ( )
a) 5A b) 10A c) 15A d) 32A

23) In Efftronics data logger networking_____software is used ( )
a) MDNL b) NMDL c) MTNL d) LMDN

24) Signal bobbing fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

25) Track bobbing fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

26) Point bobbing logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

27) Point failure logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

28) Sluggish operation of point logic belongs to __ related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

29) Track circuit failure fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

30) Signal blanking fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

31) Signal flying back to danger fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

32) Point loose packing fault logic belongs to _ related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

33) Point burst fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

34) Clearing of signal without route locking fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

35) Passing of danger signal fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

36) Train passing blank signal fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

37) Late start of train fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

38) Late closure of LC gate fault logic belongs to_____related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

39) Premature operation of Double line block to TOL fault logic belongs to _____ related from RDSO 2011 logics ( )
a) Safety b) Maintenance c) Operational d) none

40) In Efftronics data logger_____is possible. ( )
a) On Line simulation b) OFF Line simulation
c) Both a & b d) none

41) Data logger in various stations can be interconnected in a network by using ( )
a) Quad cable b) Microwave
c) OFC d) All the above

42) The DIP switches to set the unique Identification number to each data logger is provided in the_____card In Efftronics data logger ( )
a) DSU b) ASU c) CPU d) Front panel

43) Data logger acts like a “Black box” which can ( )

a) scan the events

b) store the events

c) Process the data for generating various user-friendly reports.

d) All the above

44) Data loggers can be connected in the network which help in monitoring ( )

a) PI b) RRI c) EI d) All

45) _____number of digital inputs shall be connected to Efftronics RTU ( )

a) 16 b) 48 c) 24 d) 64

46) _____number of Analog inputs shall be connected to Efftronics RTU ( )

a) 16 b) 64 c) 84 d) 96

47) The CMU is having the_____software to retrieve data from all networked data logger ( )

a) Graphical User Interface (GUI) b) Database

c) Spreadsheet d) None

48) Data logger is suitable for working on_____areas ( )

a) Non-RE area b) RE area c) DC electrified d) All

49) The working voltage of data logger is ( )

a) 230 V AC b) 110 V AC c) 110 V DC d) 24 V DC

50) In Efftronics data logger has the facility to log minimum_____events with First-In First-Out (FIFO) logic ( )

a) 6 lakhs b) 8 lakhs c) 10 lakhs d) 12 lakhs

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
c	a	c	b	d	d	b	b	b	d
11	12	13	14	15	16	17	18	19	20
c	a	c	d	c	c	b	b	d	a
21	22	23	24	25	26	27	28	29	30
b	c	b	b	b	b	b	b	b	b
31	32	33	34	35	36	37	38	39	40
b	b	a	a	a	a	c	c	c	c
41	42	43	44	45	46	47	48	49	50
d	c	d	d	d	a	a	d	d	c

ST-32 : TPWS. TCAS & AWS

1) Main Equipment ofKavach are_____ ( )
   a. Station Kavach b.Loco Kavach c.RFID Tags **d.All**

2) Kavach can beprovidedat_____ ( )
   a. Stations b.IBlocations c. Mid sectionLCs **d. All**

3) RFID tagsarefixed_____ ( )
   a. **Onsleeper**b.Onsignal c.On rail d. in locationbox

4) Kavach performs_____ function ( )
   a. Controls loopline speed b. Prevents head oncollision
   b. PreventsSPAD **d. All**

5) Kavach Network shall be suitable for train speeds at least up to_____Km/hr ( )
   a.110 b.130 c.140 **d. 200**

6) Kavach includes thefunctionsof ( )
   a. TPWS b.ACD c. AWS **d. TPWS &ACD**

7) The on board system ofKavach consists ( )
   a. Radio-antenna b.GPS-antenna **c.** BTM-antenna d. **both a&b**

8) Stationary Kavach unit isprovided at ( )
   a. Stations b.IBS c. Mid-sectionLCgates **d. a, b &c**

9) RFID tags arefitted------- ( )
   a. In the cab b. Underthecab **c. Onsleeper** d. In location

10) RFIDtagsprovide ( )
   a. **Site specificstaticinformation** b. Site specific dynamicinformation
   c. Both static anddynamicinformation d. Movementauthority

11) TCAS uses --- radio communication between stationary and locomotiveunits( )
   a. FullduplexVHF b. Half duplexVHF
   c. Halfduplex UHF **d. Full duplexUHF**

12) ----- number of frequencies are used for radio transmissionin Kavach ( )
   a.3 **b. 2** c. 4 d. 6

13) Stationary TCAS unit transmits data on------frequency ( )
   a. **F1** b. F2 c. F3 d. F1&F2

14) The required communication range in TCAS is upto------- ( )
   a. 2.5km b.3km **c. 3.5km** d. 4.5km

15) In TCAS on track side ------areprovided ( )
   a. **RFIDtags** b. Fixedbalises
   b. Switchablebalises d. Both RFID tags andbalises

16) In TCAS line sidesignals are ( )
a. Optional b.Notrequired **c.Required** d. Required only atstations

17) TCAS is developed to meet the requirements of--------standard ( )
a. SIL1 b.SIL 2 c. SIL3 **d. SIL 4**

18) What type of signaling information TCAS provides toLocopilot. ( )
a. MovementAuthority b. TargetSpeed
c.TargetDistance **d. All theabove.**

19) TCASConsistsof ( )
a. Station TCASEquipment'sonly b. LOCO TCAS Equipment'sonly
c. RFID Tags ontrackonly **d. All theabove.**

20) TCAS works on whichmedia ( )
a. QUADCable b. OFC Cable **c. Both** d. None

21) TCAS works on which radiofrequency ( )
a. VHF **b.UHF** c. HF d. MF

22) For enhanced Communication Efficiency TCASuses ( )
a.DynamicTDMA b. StaticTDMA c.FDMA d. None

23) TCASSupports ( )
a.Cabsignaling b.Continuoussupervisionc. Prevent SPAD **d. All**

24) Loco TCAS consists of the following subsystems: ( )
a. TCAS ControlUnit
b. Two Driver Machine InterfaceDMI.s
c. Two RFIDReaders
d. All theabove

25) TCAS design isbasedon ( )
a. 2 out of 3 architecture in the hardware with identicalsoftware
b. 1 out of 3 architecture in the hardware with identicalsoftware
c. 2 out of 2 architecture in the hardware with identicalsoftware
d. 1 out of 2 architecture in the hardware with identicalsoftware

26) Kavach Prevents
a. HeadOncollision b. Side oncollision ( )
c. Rearendcollision **d. All**

27) In Kavach, SOS feature is availablein ( )
a. Station TCASEquipmentonly b. LOCO TCAS Equipmentonly
c. Both a&b d. None

28) For calculation train length measurement, TCASuses ( )
a. Track CircuitAT&BT b. IBsection c.Block section d. All

29) Stationary TCAS System consistsof ( )

a. TCASPower input b. Station Electronicunit

c.ModemInterface d. All

30) Stationery TCAS workson ( )

a. 110VD.C b. 110VA.C c. 24V D.C d. 48 VD.C

31) Radio modem in TCAS workson ( )

a. 110VD.C b. 110VA.C **c. 24V D.C** d. 48 V D.C

32) Type of antenna used in TCASis ( )

a. co-lineardipoleantenna b. GPantenna

c.Patchantennas d. Whipantenna

1	2	3	4	5	6	7	8	9	10
d	d	a	d	d	d	d	d	c	a
11	12	13	14	15	16	17	18	19	20
d	b	a	c	a	c	d	d	d	c
21	22	**23**	24	25	26	27	28	29	30
b	a	d	d	a	d	c	a	a	a
31	32	33	34	35	36	37	38	39	40
c	a								