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South Central Railway

MULTIPLE CHOICE

QUESTION BANK

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Multi Disciplinary Zonal Training Institute – S&T Campus
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. Helper

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 employee having more than 5 years of service ( )
a. 4 b. 1. c. 3 d. 2

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. 10

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) Normally leave should not be refused in particular during __ years of service( )

a. 10 years b.20 years c. 15 years d. 25 years

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	c
21	22	23	24	25	26	27	28	29	30
c	b	d	b	d	b	d	a	b	a

ST-03b : MEASURING INSTRUMENTS

1) In a measurement system the transducer is the ( )
   a. Input element b. Processing device
   c. Signal conditioning device d. Output element

2) The basic principle of a D'Arsonval instrument is the same as that of a ( )
   a. Moving Iron instrument b. Repulsion instrument
   c) Induction instrument d) Moving coil instrument

3) The internal resistance of an ammeter must be very low for ( )
   a) High sensitivity b) High resolution
   c) Max. voltage drop across the meter d) Min. effect on current in the circuit

4) Which of the following meter has a linear scale ( )
   a) Thermocouple b) Moving Iron c) Hot wire meter d) PMMC

5) A measure of the reproducibility of the measurement is known as ( )
   a) Accuracy b) Fidelity c) Precision d) Resolution

6) Digital Voltmeter has 3 & ½ digit display, the one volt range can be read upto( )
   a) 999 b) 9.99 c) 1.999 d) 0.1999

7) In the PMMC instrument's Torque equation equal to BANI , I stands for ( )
   a) Cross section area b) Current
   c) Magnetic field intensity d) Turns

8) If the voltmeter resistance is increased the error in the reading given by the voltmeter will ( )
   a) Increase
   b) Decrease
   c) Be independent of voltmeter resistance
   d) Increase or decrease depending upon the value of measurement

9) An instrument has a sensitivity of 1000 ohms per volt. On 100 volt scale the instrument will have internal resistance of ( )
   a) 10 ohms b) 1000 ohms c) 10,000 ohms d) 1 Mega ohms

10) A voltmeter using a 50 micro ampere meter has a sensitivity of ( )
   a) 20 Kilo ohms per volt b) 2000 ohms per volt
   c) 50 Kilo ohms per volt d) 20 Mega ohms per volt

11) The basic A to D converter used in a digital volt meter is ( )
   a) Phase converter b) Current converter
   c) voltage to time converter d) Frequency converter

12) The error of an instrument is normally given as a percentage of ( )
   a) Measured value b) Full scale value c) Mean value d) RMS value

13) Measurement cycle performed by A / D converters ( )
a) Auto Zero b) Read c) Integrate d) All

14) The unit of absolute power in logarithmic value of an electrical signal is – ( )
a) dBm b) dBr c) dB d) dBrnc

15) The power output of a amplifier is +30dBm, if the power output is made double, the value of the output power is – ( )
a) +33dBm b) +27dBm c) +60dBm d) -30 dBm

16) If the power input of an amplifier is 1mW and the gain of the amplifier +60dB, the output power of the amplifier is given - ( )
a) +33dBm b) +27dBm c) +60dBm d) 0dBm

17) The Return Loss of a line is the ratio of the power reflected back from the line to the power transmitted into the line This is due to – ( )
a) Impedance Miss match between source and cable
b) Impedance Miss match between cable and load
c) Impedance Miss match among source and load
d) Impedance mismatch, due to changes in characteristic impedance of cable at joints

18) Bridge megger is used for - ( )
a) Identification of low insulation fault in the cable
b) Finding loop resistance of cable pair
c) Contact faults within the cable pairs
d) All of the above

19) Ac voltage is required for earth testing because of ___nature of earth. ( )
a) Resistive b) Electrolytic c) capacitive d) inductive

20) Psophometric.voltage is a____measurement of noise present on a transmission line across a telephone in milli volts. ( )
a) logarithmic b) Linear c) Indirect d) Reverse

21) The deflection in Megger meter is determined by the ____of current in Current and Potential coils. ( )
a) Addition b) Product c) Ratio d) Reverse

22) Visual fault locator allows__identification of fiber cable faults as breaks, micro or macro bending. ( )
a) Detailed b) Differed c) Instant d) delayed

23) VFL uses a bright ____ colour light beam of 650nm or 635nm to inject into the .fiber that allows to see a break as a glowing or blinking light ( )
a) Yellow b) UV c) RED d) Blue

24) OTDR can be characterized similar to optical___. ( )

a) Radar b) Sonar c) Detector d) Amplifier

25) Reflection is tens of thousands of times greater in power level than the backscatter. ( )

a) Internal b) Fresnel c) Total d) External

26) Pulse width is the width of the optical pulse from the OTDR that is …….. in a time frame. ( )

a) scattered b) Refracted c) Reflected d) generated

27) _____Optical Light Source provides with an inbuilt optical attenuator, to vary the attenuation of the output level typically in 0.1 steps. ( )

a) -3 to -6dB b) 0 dB c) 0-6 dB d) 6-10 db

28) _____Which pulse width do I use to troubleshoot a long fiber run on an OTDR ? ( )

a) Longest b) Unchanged c) Medium d) Shortest

29) Device used to test a fiber optics splice loss is ( )

a) Spectrum analyzer b) Oscilloscope

c) Optical power meter d) Field strength meter

30) TMS consists of _____ meter ( )

a) oscillator b) level meter c) both d) none

ANSWERS KEY

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

ST-04 : POWER SUPPLY, CELLS & BATTERY

1) Function of separators in Lead acid cell is to prevent _____. ( )
   a. over charging b. short-circuit c. deep discharge d. plate damage

2) Capacity of any Lead Acid cell is given in _____. ( )
   a. Ampere Hours b. Ampers c. Hours d. Voltage hours

3) While charging LA cell, the condition of gasing indicates that the cell is ____ ( )
   a. partially discharged b. fully discharged
   c. partially charged d. fully charged

4) Active material on positive plates of a Lead Acid cell is_____ ( )
   a. Lead peroxide b. Lead dioxide c. Lead sulphate d. Lead

5) _____is an instrument used to measure the Specific gravity of electrolyte ( )
   a. Thermometer b. Specific gravity meter
   c. Mass flow meter d. Hydrometer

6) The material used for grids in maintenance free Lead Acid battery is_____. ( )
   a. Lead Calcium alloy b. Lead Peroxide alloy
   c. Lead Sulphate alloy d. Lead Zinc alloy

7) High rate of charging or discharging leads to problem of ____in LA acid cell. ( )
   a. Sulphation b. Loss of Capacity
   c. High density of electrolyte d. Buckling

8) AGM, in VRLA batteries, means _____. ( )
   a. Absorbed Gas Mat b. Associated Glass Mat
   c. Absorbed Glass Mat d. Associated Gas Mat

9) The VRLA / SMF-LA batteries shall be charged with _____voltage. ( )
   a. Constant Voltage with voltage un-regulated
   b. Constant Voltage with voltage regulation
   c. Constant Voltage
   d. Regulated Voltage

10) To avoid lead corrosion on battery connectors and terminals _____ has to be applied. ( )
   a. Petroleum jelly b. Leaded greese c. Diesel d. SAE-2T oil

11) Internal short circuit in a cell is indicated by _____. ( )
   a. Gassing from cell b. High specific gravity of lectrolyte
   c. Warm when touched d. Sulphation

12) Lead Acid cell can be discharged up to voltage of _____. ( )
   a. 1.70 b. 1.80 c. 1.85 d. 1.9

13) In VRLA cell/battery the compensation of distilled water is by _____. ( )
   a. Recombination principle b. Adding distilled water
   c. Adding very low amount of acid d. Keep the cell in boost charge

14) Leaving the LA battery in a discharged condition causes_____. ( )
a. Internal short circuit b. Sulfation c. Loss of electrolyte d. Shedding

15) Voltage of a fully charged rechargeable Alkaline cell is _____ ( )
a. 2.1 b. 1.5 c. 1.0 d. 1.2

16) The electrolyte used in case of Alkaline cell is _____. ( )
a. KOH b. H_2SO_4 c. MnO_2 d. Zn

17) The float charging voltage of a VRLA cell is_____ ( )
a. 2.10 b. 2.15 c. 2.25 d. 2.30

18) The operating temperature of a battery increases then the capacity of battery _____. ( )
a. Increases b. Decreases
c. Remains same d. Both (a) & (b) are correct

19) K-factor in LA cells indicates_____. ( )
a. Availabilty of cell capacity at different loads
b. Availabilty of cell capacity at different Temparatures
c. Availability of cell capacity at different discharge rates and end cell voltages
d. Availability of cell capacity at different charge rates & fully charged cell voltages

20) Temperature correction in LA batteries is not required when the battery is in operation at _____°C. ( )
a. 0 b. 15 c. 20 d. 27

21) EPV of an Alkaline cell is_____. ( )
a. 1.0 b. 1.2 c. 1.8 d. 2.0

22) Recommended type of charging for Alkaline cells is _____. ( )
a. Constant current & regulated voltage b. Regulated Voltage & Regulated Current
c. Constant current & constant voltage d. Regulated current & constant voltage

23) Gravimetric Energy density is high in _____ rechargeable batteries. ( )
a. Li-ion b Li-poly. c. Ni-MH d. VRLA

24) Maximum allowable depth of discharge of battery, as defined by manufacturer, is_____. ( )
a. 50% b. 60% c. 70% d. 80%

25) Rate of Trickle charging is _____ ( )
a. 1 mA/AH b. 10 mA/AH c. 100 mA/AH d. 1 A/AH

26) The codal life of re-chargeable batteries used in S&T department is _____ months ( )
a. 24 b. 36 c. 48 d. 60

27) The maximum temperature allowed during charging of LA battery shall not exceed _____ °C. ( )
a. 27 b. 30 c. 40 d. 50

28) Inverter unit is for conversion of _____ ( )
a. DC to DC b. AC to DC c. DC to AC d. AC to AC

29) Boost Charging Voltage of conventional LA battery is_____. ( )
a. 2.2 b. 2.3 c. 2.4 d. 2.5

30) The approximate ratio of acid to distilled water for conventional LA battery is( )
a. 1:2 b. 1:3 c. 1:4 d. 1:5

31) As defined by manufacturer, charging current is limited to _____% of nominal capacity of battery in constant potential with current limited charging, ( )
a. 1. b. 2. c. 3. d. 40

32) Charging voltage of VRLA or SMF battery is_____. ( )
a. 2.1 b. 2.2 c. 2.3 d. 2.5

33) During initial charging of convential LA cells, the voltage of cell shall be set to_____. ( )
a. 2.3 b. 2.4 c. 2.6 d. 2.7

34) While charging initially the LA batteries, _____ amount of the constant current may be supplied to the batteries, when manufacturer has not defined the charging current. ( )
a. AH capicity/5 b. AH capacity/10 c. AH capacity/15 d. AH capacity/20

35) Unit of Capacity of a cell_____ ( )
a. AH b. A c. H d. HA

36) In C /10 discharge rate, 10 indicates_____ ( )
a. Volts b. Amps c. Hours d. Constant

37) In Automatic Battery charger the output controlling device is_____. ( )
a. BJT b. IGBT c. UJT d. SCR

38) In Automatic battery charger the gate pulses for SCR's is generated by ___ ( )
a. Transformer b. control circuit c. SCR d. UJT

39) The efficiency of Linear type battery charger is ___ a SMPS battery charger ( )
a. same as of b. higher than c. less than d. almost equal to

40) In SMPS battery charger, isolation from AC mains is_____ ( )
a. very high b. very low c. equal d. partial

41) Out put side of a charger _____ is introduced to reduce the change in the charging current ( )
a. Load b. Ballast resistor c. Battery d. Capicitor

42) MOV is a _____ ( )
a. Capacitor b. Reverse Voltage protection
c. Fuse d. Surge suppressor

43) Specification of 48VDC auto/manual battery charger for S&T equipment is _____ ( )

a. IRS.TC.72/97 b. IRS.TC.86/2000
c. IRS.S.86/2000 d. RDSO/SPN/TL/23/99

44) In a 48V DC auto/manual battery charger, float voltage range is ___ V/Cell. ( )

a. 2.0 to 2.3 b. 1.8 to 2.3 c. 2.0 to 2.5 d. 1.8 to 2.5

45) In a 48V DC auto/manual battery charger, N+1 indicates_____. ( )

a. Number of SMRs b. Number of cells
c. Number of battery banks d. Number of Loads

46) In a automatic battery charger, automatic change over from float to boost mode and vice versa will be carriedout by sensing _____ ( )

a. load voltage b. load current c. battery voltage d. battery current

47) Power plants which have the scope for modular expansion are_____ ( )

a. Thyristor controlled b. Ferro-resonant c. Linear d. SMPS

48) Solar panel used at LC gate has _____voltage ( )

a. 24 V D.C b. 48 V D.C c. 12 V D.C d. 18 V D.C

49) Charging method used for new LA cells is __ ( )

a. Initial charging b. Boost charging c. Triple charging d. Float charging

50) Zener diode is used as _____regulator ( )

a. Current b. Voltage c. Power d. emf

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
b	a	d	a	d	a	d	c	b	a
11	12	13	14	15	16	17	18	19	20
c	c	a	b	d	a	b	b	c	d
21	22	23	24	25	26	27	28	29	30
a	c	b	d	a	c	d	c	c	b
31	32	33	34	35	36	37	38	39	40
b	c	d	c	a	c	d	b	c	a
41	42	43	44	45	46	47	48	49	50
b	d	b	a	a	c	d	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) Coloumb (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 stabiliser, if input voltage increases within the range the output voltage ( )
(a) increases (b) decreases (c) remains constant (d) none

35) In a stabiliser, 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) $2\pi fc$ (b) $1 / 2\pi fc$ (c) $2\pi fL$ (d) $1 / 2\pi fL$

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) $N_2/ N_1 = V_2 / V_1= I_1 / I_2$ (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) $N_1 / N_2 = V_1 / V_2= I_2 / I_1$

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) Continous 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 Hertzs 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 capacitance 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 (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	d	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 : DISASTER MANAGEMENT, SCHEDULE OF DIMENSIONS, SAFETY IN TRAIN OPERATION

1) Disaster is a sudden, calamitous event bringing great damage, _____ to life and property. ( )
   a) loss, b) destruction c) devastation d) All

2) A disaster is a situation in which the community is_____ of coping up. ( )
   a) incapable b) Ability c) Capable d) none

3) _____Types of disasters comes under Major natural. ( )
   a) Floods b) earth quack c) Cyclone d) All

4) _____Types of disaster comes under Major manmade ( )
   a) War b) Chemical pollution c) Setting of fire d) All

5) In Railways, disaster is defined as a major train accident leading to _____ for a long period. ( )
   a) heavy causalities and disruption to traffic b) Loss of railway employee
   c) Loss due to miscreant d) none

6) Collision involving a train carrying passengers comes under which class ( )
   a) A-2 b) A-3 c) A-1 d) A-4

7) Fire or Explosion in a train carrying passengers comes under which class ( )
   a) B-1 b) B-2 c) B-3 d) B-4

8) Trains NOT carrying passengers running into road traffic comes under which class ( )
   a) C-3 b) C-2 c) C-1 d) C-4

9) As per Railway Board who is having authority to declare an incident as railway disaster. ( )
   a) GMs b) AGMs c) CSOs (when GM/AGM are not available) d) All

10) Measures put in place to minimize the results from a disaster. ( )
   a) Mitigation b) Preparedness c) Response d) All

11) Communication network is provided at derailment site by ( )
   a) S & T department b) Operating department
   c) Security department d) Engineering department

12) PT set available on trains carrying goods with ( )
   a) Both b) Break van c) Loco motive d) None

13) Walkie Talkie sets available with ( )
   a) Driver of train b) Guard of train c) Both d) None

14) The target time for turning out of ARMV in day from the time of sounding of Hooter is ( )

a) 15 minutes b) 25 minutes c) 30 minutes d) 45 minuets

15) The target time for turning out of ARMV in night from the time of sounding of Hooter is ( )

a) 15 minutes b) 25 minutes c) 30 minutes d) 45 minuets

16) The target time for turning out of ART in day from the time of sounding of siren is ( )

a) 15 minutes b) 25 minutes c) 30 minutes d) 45 minuets

17) The target time for turning out of ART in night from the time of sounding of siren is ( )

a) 15 minutes b) 25 minutes c) 30 minutes d) 45 minuets

18) The ART equipment's are to be periodically tested by nominated staff to ensure their satisfactory working at all times is ( )

a) Once in 15 days b) Once in a month

c) Once in Three months d) None

19) The ART equipment's are to be periodically Inspection by ASTE/DSTE ( )

a) Once in 15 days b) Once in a month

c) Once in Three months d) None

20) Every ART shall have nominated telecom staff the in charge shall generally be( )

a) SSE b) JE c) Anyone who is in charge d) both

21) To handle train accidents a High Level committee was form in the year ( )

a) 2004/ 2005 b) 2002/2003 c) 2003/2004 d) 2006/2007

22) Initial action taken as the disaster takes place is called ( )

a) Response b) Recovery c) Both d) None

23) Indian Railways was managing disaster before the forming of HLC as per rules of ( )

a) Accident manual 1992 b) Accident manual 1993

c) Accident manual 1994 d) Accident manual 1991

24) High level committee was constituted on ( )

a) September 2002 b) December 2002 c) October 2002 d) November 2002

25) Full form of NDMA is ( )

a) National Development Ministerial authority

b) National Disaster Management authority

c. National Disaster Management Agency

d) None

26) Full form of SPURT is ( )

a) Small Primate Un-Restrained Test b) Self Propelled Ultrasonic Rail Testing

c) School project using Rail Technology c) None

27) The first phase after disaster which is of shortest duration last for about an hour is called ( )

a) golden hour b) Good Hour c) Go Home d) None

28) Full form of ACD is ( )

a) Automatic call distributor b) Asain Co-operation Development

c) Anti-Collision Device d) None

29) Disaster Management on Indian Railways deals with the following ( )

a) Prevention and Mitigation. b) Preparedness for Quick relief

c) Rescue and restoration. d) All The Above

30) The Parliament of India enacted the National Disaster Management Act on ( )

a) 23rd December 2005, b) 23rd October 2005

c) 23rd September 2005 d) 23rd November 2005

A N S W E R K E Y

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

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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 of these

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 Language

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? ( )
(A) 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 Randrom Access Memory? ( )
(A) Conductor (B) Semi Conductor (C) Vaccum 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 of these

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

35) Which device among 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) Trackpad (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) Megabyte (C) Kilobyte (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) Retreiving

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 a 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 K E Y

1	2	3	4	5	6	7	8	9	10
B	D	C	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	B	C	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-08 : TELECOM CABLES

1) What is the purpose of loading in an underground Telecom Cable ( )
   a) To reduce transmission loss b) To decrease cross talk
   c) To reduce noise d) To increase attenuation

2) What is the length of loading section for a 6-quad cable ( )
   a) 2000 mtrs b) 1830 mtrs c) 2500 mtrs d) 1900 mtrs

3) What is the maximum capacitance unbalance permitted in a loading section ( )
   a) 30 pf b) 20 pf c) 40 pf d) 10 pf

4) The unbalance in capacitive couplings of quad cable causes ( )
   a) Noise b) Attenuation c) Cross talk d) Distortion

5) Unbalance of Earth couplings in VF circuits causes ( )
   a) Noise b) Cross talk c) Attenuation d) Distortion

6) The capacitance unbalance between side circuit 2 of quad no1 with respect to side circuit 1 of quad no.1 is ( )
   a) K9 b) K10 c) K11 d) K12

7) Overhead lines are not fit for Telecommunication circuits in RE area because of _____ ( )
   a) conductors do not have insulation b) interference of Induced voltage by 25kv
   c) conductors are thick d) High cross talk

8) The purpose of twisted pair cables in telecom cables is ( )
   a) To reduce cross talk b) To give strength
   c) Ease in manufacturing d) To avoid signal loss

9) At what distance condenser joint is done in a loading section of 6 quad cable( )
   a) 915 mtrs b) 1000 mtrs c) 1200 mtrs d) 1220 mtrs

10) Telecomswitch board cables are used for ( )
   a) Outdoor telecom wiring b) Indoor telecom wiring
   c) Electrical switch board wiring d) Underground telecom wiring

11) The characteristic impedance of a switch board cable is ( )
   a) 500 Ω b) 600 Ω c) 470 Ω d) 1120 Ω

12) Purpose of rip cord in a switch board cable is to _____ ( )
   a facilitate the removal of PVC sheath) b) remove the insulation of the conductor
   c) route the cable through pipes d) uncoil the cable

13) Expand UTP cable ( )
   a) Unscreened twisted pair b) Unused twisted pair
   c) Unusual twisted pair d) Unshielded twisted pair

14) In general, CAT cables are connected with _____ type of connectors ( )
a) RJ 15 b) RJ 45 c) RJ 11 d) RJ 9

15) In STP cables _____ is used as screen ( )
a) Aluminium foil b) Aluminium wires
c) Aluminium sheath d) Copper sheath

16) The co-axial cable's usual impedance shall be _____ or _____ Ohms ( )
a) 40-60 or 70-90 b) 40-60 or 70-100
c) 40-50 or 70-80 d) 20-40 or 30-40

17) RG 8 cable can be used up to the length of _____. ( )
a) 600 mtrs b) 800 mtrs c) 400 mtrs d) 500 mtrs

18) The material used for conductor in telecom cables is high conductivity_____.( )
a) Insulated copper b) Annealed copper
c) Silver coated copper d) Aluminium coated copper

19) What is the colour code of 37th pair in a 50 pair switch board cable_____.( )
a) Orange & red b) Blue & red c) Green & red d) Slate & white

20) Specification of Switch Board cable is_____ ( )
a) IS 434-Part-1/1964 b) RDSO Spec. No:IRS:TC 41/97 (Amd. 2)
c) IS-694-Part /1964 d) TEC Spec.No: GR/WIR/06/03 of March 2002

21) UTP cable that transmits up to 16Mbps is _____ ( )
a) Cat 1 b) Cat 2 c) Cat 3 d) Cat 4

22) UTP cable that transmits at up to 10 Mbps is _____ ( )
a) cat 3 b) Cat 2 c) Cat 4 d) Cat 1

23) Expand PIJF _____ ( )
a) Polyethylene insulated jelly filled b) Polyester insulated jelly filled cable
c) Polymer insulated jelly filled d) Polyvinyl insulated jelly filled

24) RDSO spec. for PIJF telephone Cable is_____ ( )
a) IRS-TC: 41/97 b) TEC Spec.No: GR/WIR/06/03 of March 2002
c) IS 434-Part-1/1964 d) IS-694-Part /1964

25) The colour code of pair number 16 in a 20 pair PIJF cable _____ ( )
a) Black & slate b) Balck & yellow c) Blue & black d) Blue & yellow

26) In 20 pair PIJF cable, conductor insulation main colours are _____ and mate colours are _____ ( )
a) 4 & 5 b) 3 & 5 c) 5 & 4 d) 6 & 4

27) The number of units in 20 pair cable are _____ ( )
a) 5 b) 4 c) 6 d) 3

28) The number of units in 50 pair cable are _____ ( )
a) 2 b) 4 c) 5 d) 6

29) The number of units in 100 pair cable are _____ ( )
a) 5 b) 4 c) 6 d) 7

30) How many binding tapes are used for identifying each unit in PIJF pair cable are _____. ( )
a) 4 b) 5 c) 3 d) 6

31) Entry of moisture / water is prevented by _____in PIJF cable ( )
a) Aluminium sheath b) GI armour c) Jelly d) All

32) Amour in UG cable gives_____ ( )
a) Mechanical strength b) Prevents the entry of water
c) Provides screening d) Prevents the entry of moisture

33) Loop resistance of 0.51 mm conductor dia PIJF cable is____ ( )
a) 184 Ω b) 180 Ω c) 192 Ω d) 194 Ω

34) The induction by AC traction system in Telecom circuits is due to__ couplings( )
a) Electrostatic and galvanic b) Electromagnetic and transformer
c) Electric and magnetic d) Electrostatic and electromagnetic

35) Cumulative buildup of induced voltage in U/G telecom cable is prevented by __ ( )
a) Matching transformers b) Isolation transformers
c) Current transformers d) Step down transformers

36) Psophometric voltage in telecommunication circuits should not exceed __ mV( )
a) 3mv b) 2mv c) 4mv d) 5mv

37) The screening factor of Aluminium sheath/screen is always _____than unity( )
a) More b) Equal to c) Less d) Higher

38) Isolation transformers are used to _____ ( )
a) To reduce Induced voltage due to catenary
b) For impedance matching
c) For balancing of circuits
d) For reducing noise

39) Under normal conditions of traction power system the longitudinally induced voltage in the telecommunication cable should not exceed _____ ( )
a) 60 v b) 70 v c) 80 v d) 90 v

40) Maximum permissible induced voltage in an U/G telecom cable is_____ ( )
a) 150 V b) 160 V c) 140 V d) 170 V

41) Isolation transformers are introduced at a regular intervals of approximately__( )

a) 19 kms b) 20 kms c) 10 kms d) 17 kms

42) The induced voltage in an U/G telecom cable due catenary per km is_____ ( )

a) 6.75 V b) 8.75 V c) 7.75 V d) 5.50 V

43) Isolation transformers are provided at _____ ( )

a) Repeaters b) Test room c) At EC sockets d) Cable huts

44) The Transmission loss in 0.9 mm conductor dia quad cable is_____db/km ( )

a) 0.63 b) 0.25 c) 0.38 d) 0.69

45) 4 Wire system is used in U/G cable is because of _____( )

a) To have two wires as stand by b) Amplifiers are used

c) Using cable huts in between d) For future usage

46) RDSO specification of 4/6 PIJF quad cable of 0.9 mm dia conductor is ___ ( )

a) IRS:TC: 30/2005 ver.2 b) IRS:TC: 40/2005ver.2

c) IRS:TC 50/2005 ver.2 d) IRS:TC: 30/2015 ver.2

47) RDSO specification of 4/6 PIJF quad cable of 1.4 mm dia conductor is ___ ( )

a) IRS:TC: 30/2005 ver.2 b) RDSO/SPN/TC/72-07

c) IRS:TC 50/2005 ver.2 d) RDSO/SPN/TC/82-07

48) 1.4 mm dia conductor 4/6 quad cable is used when the distance between the block stations is more than _____ ( )

a) 30 kms b) 10 kms c) 15 kms d) 25 kms

49) The insulation resistance between each conductor in a quad shall not be less than _____ per kilometer ( )

a) 200MΩ b) 100MΩ c) 400MΩ d) 500MΩ

50) Purpose of Poly Aluminium sheath in a quad cable is_____ ( )

a) To prevent the entry of moisture b) To provide screening

c) To protect the conductors from damage d) To reduce induced voltages

51) The colours of conductors of quad no 5 in 6 quad cable is_____ ( )

a) Black, white, red, slate b) Blue, white, red, slate

c) Yellow, white, red, slate d) Green, white, red, slate

52) The resistance of conductor in a quad cable is_____ ( )

a) 28Ω/km b) 56Ω/km c) 58Ω/km d) 26Ω/km

53) The characteristic impedance of a 6 quad cable is_____ ( )

a) 600Ω b) 1120Ω c) 56Ω d) 470Ω

54) What is the minimum distance should be maintained between the OHE masts and the cable _____ ( )

a) 5.00 mtrs b) 5.75 mtrs c) 6.00mtrs d) 6.75mtrs

55) All new Telecom cables shall be laid close to near _____ ( )

a) way station b) the track c) the railway boundary d) the telecom equipment room

56) The normal depth of the trench for Telecom Cable is _____ ( )

a) One metre b) 1.5 metre c) 1.8 metre d) 2 metres

57) The standard drum length of 4/6 quad cable is_____. ( )

a) One km b) Two kms c) 500 mtrs d) 460 mtrs

58) Tapping diagram consists of _____ ( )

a) Reasons for each tapping b) Location of each tapping

c) Distance between the tappings d) No. of tappings

59) The derivation cable used in 4/6 quad cable system is _____ ( )

a) 6 quad cable b) 4 quad cable c) PIJF cable d) SWBD cable

60) Telecom cable shall be laid in _____ pipes for a length of _____ on either side of TSS ( )

a) RCC pipes & 300mtrs b) GI pipes & 200 metres

c) Troughs & 200 mtrs d) HDPE & 200 mtrs

61) The cable route indicators are to be placed at every _____ on normal path ( )

a) 50 mtrs b) 100 mtrs c) 70 mtrs d) 60 mtrs

62) On each side of major girder bridge a cable reserve of ____ to be provided ( )

a) 20 mtrs b) 10 mtrs c) 15 mtrs d) 5 mtrs

63) On each side of minor bridge a cable reserve of ____ meters to be provided ( )

a) 7 mtrs b) 6 mtrs c) 5 mtrs d) 4 mtrs

64) A cable reserve of ____ meters to be provided at every joint loop ( )

a) 3 mtrs b) 4 mtrs c) 5 mtrs d) 2 mtrs

65) The widely used cable laying method for U/G cables is ( )

a) Laying solid b) Drawing through ducts

c) Laying in PVC pipes d) Laying direct in the ground

66) The impedance ratio of matching transformer used for VF circuits in unloaded quad cable is _____ ( )

a) 470 : 600 Ω b) 470 :1120 Ω c) 470 : 470 Ω d) 1120 : 1120 Ω

67) “Branch off clip” is used for _____ joint only. ( )

a) normal joint b) loading coil joint c) derivation joint d) condenser joint

68) RDSO specification for RTSF jointing kit is _____ ( )

a) IRS-TC: 77/2012 b) IRS-TC: 79/2012

c) IRS-TC: 77/2011 d) IRS-TC: 77/2014

69) The purpose of tinned copper braid in RTSF jointing kit is ( )

a) To provide continuity between the GI armours of both the cables

b) To provide continuity between the poly al sheaths of both the cables

c) To provide continuity between the Al. screening of both the cables

d) For providing continuity between the conductors

70) The purpose of jelly in RTSF jointing kit ( )

a) To prevent entry of water b) To provide good conductivity

c) To avoid short circuit d) For providing mechanical support

71) Induced voltages in 6 quad cable is eliminated by earthing ( )

a) GI armour b) Poly. Al. sheath c) Al. screening wires d) Aluminium foil

72) The impedance ratio of matching transformer used for block circuits in unloaded quad cable is _____ ( )

a) 470:600 Ω b) 1:2 Ω c) 470:1120 Ω d) 1120: 600 Ω

73) The value of loading coil connected in each limb of a 6 quad cable is___ ( )

a) 118mH b) 88mH c) 44mH d) 59mH

74) The rdso spec for jointing kit used for PIJF telephone cables is __ ( )

a) IRS/TC/41/97 b) IRS-TC-57/2006

c) IRS.TC.77-2012 d) IRS.TC.77-2013

75) Purpose of sealant tape in the RTSF kit is_____ ( )

a) To cover the metallic projections b) To wrap the conductors

c) To seal the joint d) To prevent entry of water

76) Insulation resistance of quad cable shall be tested with _____ Megger after completion of jointing of cables. ( )

a) 100 V b) 250 V c) 500 V d) 1000 V

77) Transmission loss test shall be carried out with a tone frequency of _____ ( )

a) 1000 c/s b) 800 c/s c) 600 c/s d) 400 c/s

78) Cross Talk has to be measured with _____ frequency for VF Circuits ( )

a) 800 c/s b) 1000 c/s c) 1200 c/s d) 1500 c/s

79) Periodicity of conduction test carried out on a quad cable is_____ ( )

a) Weekly b) Monthly c) Quarterly d) Yearly

80) Periodicity of insulation resistance test carried out on a quad cable is_____ ( )

a) Monthly b) Quarterly c) Half yearly d) Yearly

81) Periodicity of transmission loss test carried out on a quad cable is_____ ( )
a) Fortnightly b) Monthly c) Quarterly d) Half yearly

82) Periodicity of cross talk test carried out on a quad cable is_____ ( )
a) Fortnightly b) Monthly c) Weekly d) Quarterly

83) Periodicity of Psophometric noise test carried out on a quad cable is____ ( )
a) Fortnightly b) Monthly c) Quarterly d) Yearly

84) What is the tone frequency applied for cross talk test on BPAC circuits_____( )
a) 1000 c/s b) 5000 c/s c) 150 k c/s d) 155 k c/s

85) Low insulation fault can be localized with the help of _____ ( )
a) Multi meter b) Megger c) Earth tester d) Digital cable fault locator

86) In digital cable fault locator, which mode is used to find out open/ short circuit fault _____ ( )
a) Low insulation b) Insulation resistance
c) Pulse echo reflection d) Foreign potential

87) Before disconnecting Block, BPAC and IB circuits for testing of Quad cable _____ has to obtained from Station Master ( )
a) Disconnection memo b) Disconnection note
c) Disconnection order d) Disconnection booklet

88) The purpose of Integrated Cable path diagram is _____ ( )
a) To locate the path b) To carry out tests
c) For maintenance d) To protect the cables

89) BPAC circuit in quad cable shall be tested from _____ to _____ ( )
a) station to station b) location to location
c) section to section d) division to division

90) Quad cable has to be tested periodically by JE/T on _____basis ( )
a) Weekly b) Monthly c) Quarterly d) Yearly

91) Quad cable has to be tested periodically by SSE/T_____ ( )
a) Weekly & monthly b) Monthly & quarterly
c) Quarterly & yearly d) Half yearly & yearly

92) Quad cable has to inspected by Officers once in_____( )
a) Quarterly b) Half yearly c) Yearly d) Monthly

93) The insulation resistance of the 6 quad cable should be greater than __ MΩ ( )
a) 5 b) 10 c) 20 d) 50

94) Jointing kit used for 6-quad cable is ( )
a) RTSF-1 b) RTSF-2 c) RTSF-3 d) RTSF-4

95) Screening of 6-quad is done using ( )

a) Aluminium wires b) Aluminium sheath c) Lead sheath d) All

96) Loop resistance of 1.4 mm diameter 6-Quad cable is ( )

a) 23.2 ohm b) 56 ohm c) 118 ohm d) None

97) RDSO Specification of 1.4 mm dia 6-quad cable is ( )

a) RDSO/SPN/TC/72-07 b) IRS:TC: 30/2005 ver.2

c) IRS:TC: 31/2005 ver.2 d) None

98) Quad number allotted for emergency communication is ( )

a) Quad-1 b) Quad -2 c) Quad-3 d) Quad-4

99) Coaxial cable is used for ( )

a) Emergency communication b) Control communication

c) 25 W VHF set d) None

100) STP cable is used for ( )

a) PA system wiring b) Auto phone connection

c) Selective calling phone d) IB phone connection

ANSWERS KEY

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

ST-09 : ELECTRONIC COMPONENTS

1) Resistance measurement in a circuit is done only when power is ( )
A. Minimum B. Maximum C. Equal D. Zero

2) An inductor opposes changes in ( )
A. Flux B. Voltage C. Current D. EMF

3) Working of transformer principle ( )
A. Mutual inductance B. Self-inductance C. Magnetic flux D. Henry

4) Resistance of diode in forward bias is ( )
A. Low B. high C. Equal D. Zero

5) Zener diode is always is connected in ( )
A. Forward bias B. Series C. Parallel D. Reverse Bias

6) In reverse bias the diode ( )
A. Conducts B. Does not conducts C. Remains same D. Is active

7) Transistor is _____ device. ( )
A. Active B. Passive C. Switching D. Not A

8) Schottky diode are used in _____ ( )
A. Amplifiers B. Oscillators C. Regulators D. SMPS Chargers

9) Varicap is used in _____ ( )
A. RF circuits B. Chargers C. Mixer D. IF Amplifier

10) In film capacitor thin plastic is used as_____ ( )
A. Conductor B. Dielectric C. Semi Conductor D. Amplifiers

11) In common base transistor configuration the output impedance is _____ ( )
A. Low B. High C. Same D. Zero

12) Number of junction in a diode. ( )
A. 0 B. 1 C.2 D. 3

13) If the positive terminal of the battery is connected to the anode of the diode, then it is known as ( )
A. Forward biased B. Reverse Biased C. Equilibrium D. Schottky barrie

14) For a ideal PN junction diode, the current in reverse bias may be ( )
A. High B. Low C. Same D. No Current Flow

15) Number of valence electrons in a silicon atom are ( )
A. 1 B. 4 C. 8 D. 16

16) The most commonly used semiconductor element Is ( )
A. Silicon B. Germanium C. Gallium D. Carbon

17) Number of protons in the nucleus of a silicon atom are ( )
A. 4 B. 14 C. 29 D. 32

18) An intrinsic semiconductor at room temperature has ( )
A. few free electrons and holes B. Many holes
C. Many free electrons D. No holes

19) Holes are _____ charges ( )
A. Neutral charges B. No charges C. Negative charges D. Positive charges

20) Electrons are the minority carriers in ( )
A. Extrinsic Semiconductors B. P-type Semiconductors
C. Intrinsic Semiconductors D. N-type Semiconductors

21) A p-type semiconductor contains ( )
A. Holes and electrons B. Positive ions C. Holes D. electrons

22) In a Zener diode with a high breakdown voltage has ( )
A. Lightly doped P and N B. P or N is lightly doped
C. Heavily doped P and N D. None of these

23) In Zener diode, the Zener breakdown takes place ( )
A. Below 6 V B. At 6 V C. Above 6 V D. None of the above

24) In Zener diode, the breakdown is due to Zener, has a doping ( )
A. Lowest B. Moderate C. High D. Low

25) Photodiode is used in the detection of ( )
A. Visible light B. Invisible light C. No light D. Both A & B

26) Capacitor is a device used to_____ ( )
A. store electrical energy B. Vary the resistance
C. store magnetic energy D. Dissipate energy

27) Capacitor stores which type of energy_____ ( )
A. Kinetic energy B. vibrational energy
C. Potential energy D. Heat energy

28) Which of the following is a passive device? ( )
A. Transistor B. Rectifier C. Capacitor D. Vacuum Tubes

29) The formula used to find the capacitance C is _____ ( )
A. Q/v B. Qv C. Q-v D. Q + v

30) The capacitor doesn't allow sudden changes in _____ ( )
A. Voltage B. Current C. Resistance D. Capacitance

31) The Inductor doesn't allow sudden changes in _____ ( )
A. Voltage B. Current C. Resistance D. Inductance

32) The units for inductance is _____ and capacitance is _____ ( )
A. Faraday, Henry B. Coulomb, Faraday
C. Henry, Faraday D. Henry, Coulomb

33) A transistor has _____ ( )

A. one pn junction B. two pn junctions

C. three pn junctions D. four pn junctions

34) The number of depletion layers in a transistor is _____ ( )

A. Four B. Three C. One D. Two

35) The element that has the biggest size in a transistor is_____ ( )

A. Collector B. Base C. Emitter D. collector-base-junction

36) In a PNP transistor, the current carriers are_____ ( )

A. Acceptor ions B. Donor ions C. Free Electrons D. Holes

37) The input impedance of a transistor is _____ ( )

A. High B. Low C. Very high D. Almost zero

38) An SCR has _____ semiconductor layers ( )

A. Two B. Three C. Four D. None

39) An SCR has three terminals viz _____ ( )

A. Cathode, anode, gate B. Anode, cathode, grid

C. Anode, cathode, drain D. None of the above

40) An SCR behaves as a _____ switch ( )

A. Unidirectional B. Bidirectional C. Mechanical D. None

ANSWERS KEY

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

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

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

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

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

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

10) Loop signalling 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 dialling digits b) a push button to disconnect the line
   c) a button provided to start the phone d) a phone with special previlages

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

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

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

15) In on hook condition, ( )
a) line is connected to ringer circuit b) line is totally disconnected from exchange
c) line is connected to dialler circuit d) none

16) In off hook condition, ( )
a) line is connected to the dialler circuit b) line is connected to the amplifier circuit
c) line is connected to the 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 dial tone b) only incoming call allowed
c) no busy tone d) no incoming and 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

20) IP phones are often called as ( )
a) SIP phones b) digital phone
c) plus feature phone d) caller id phone

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, Iphone or Android smart phone are called ( )

a) Softphone 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

50) VOIP phone is connected through ___cable ( )

a) UTP cable b) FS cable c) Switch board cable d) Quad cable

A N S W E R K E Y

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	b	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	a

ST-45 : PASSENGER AMENITIES (PA, IPIS, PIS & GPS CLOCK)

1) Touch screen systems are also called as _____ ( )
   a) Interactive information systems
   b) Non interactive information systems
   c) Passenger operated enquiry terminal (POET)
   d) None

2) LED based electronic Display boards are _____ ( )
   a) non interactive information systems b) interactive information systems
   c) semi-inter active system d) None

3) Call centre is the system providing train related information to the passenger's( )
   a) at Railway station b) at passenger end
   c) both at Railway station and passenger end d) none

4) One of the System that provide information at Passenger end is _____ ( )
   a) Internet b) Alpha numeric display c) POET d) CCTVs

5) One of the systems that provide information at station is_____ ( )
   a) Call centre b) PSTN c) IVRS d) CCTVs

6) Passenger Amenities to be provided at stations are decided by _____ ( )
   a) GM of Zonal Railways b) DRM of Divisions
   c) Railway Board d) None

7) Touch screens are used as _____ ( )
   a) input devices b) output devices c) both a & b d) none

8) In the Surface acoustic touch screen system, the location of the touch is determined by _____ ( )
   a) Absorption of acoustic waves b) voltage changes
   c) frequency changes d) current changes

9) Digital video recorder can accommodate _____ numbers of cameras. ( )
   a) 8 b) 16 c) 32 d)64

10) Network video recorders are used in _____ ( )
   a) IP based CCTV surveillance system
   b) Analog based CCTV surveillance system
   c) both Analog and IP based CCTV surveillance system
   d) none

11) In the Resistive touch screen location of the touch is determined by _____ ( )
   a) Voltage change b) Frequency change
   c) Absorption of acoustic waves d) None

12) Redundant Array of independent disks used in IP based CCTV Surveillance system has the storage capacity in _____ ( )
   a) Kilo byte b) Mega byte c) Gega byte d) Tera byte

13) Digital video recorder (DVR) is used in _____ ( )
a) IP based CCTV surveillance system
b) Analog based CCTV surveillance system
c) Both in Analog based & IP based CCTV surveillance system
d) None

14) The IVRS is integrated with _____ ( )
a) PRS & NTES data base through servers b) BSNL/RLY exchange and PRS
c) PRS & BSNL/RLY exchange d) None

15) The Call centre fetches the dynamic data such as train arrival/departure information form_____ ( )
a) PRS server b) NTES server c) both a & b d) none

16) PBX Switch in Call centre based IVRS is equipped with _____ ( )
a) 8 E1 trunks b) 72 analog extensions
c) 24 digital extensions d) All

17) In Call center based IVRS, connectivity between BSNL exchange and Call center is through _____ ( )
a) Analog circuits b) Digital circuits c) Both a & b d) None

18) Features such as increased availability of services, E-mail access, Fax on demand, Automatic announcing unit, Call back facility on reservation confirmation, Accident related queries and Registration of complaints are available in ( )
a) IVRS b) Call center based IVRS c) both a & b d) None

19) In IPIS switching is done by _____ ( )
a) Control console unit b) Eight port LAN switch
c) Main data communication hub d) Platform data communication hub

20) Platform display boards and Coach Guidance display boards in the platforms have the below said addresses. ( )
a) Unique or Device address b) Multicast address
c) Both a & b d) IP address

21) MDCH routes the incoming signals from CCU to _____ ( )
a) Close circuit Televisions b) PA systems
c) LED based electronic display boards d) all

22) The numbers of LED based display boards, can be connected to one O/P port of PDCH are _____ ( )
a) Two boards b) Four boards c) Six boards d) Eight boards

23) The interface cable used for connecting PDCH output ports to display boards is _____ ( )
a) RS485 b) Coaxial cable c) RS232 d) OFC

24) Data synchronization between two control consoles is through _____ ( )
a) LAN switch
b) by cross connecting the PCs
c) by cross connecting the PCs or by using a LAN switch
d) none

25) The serial port connection to the Coach Guidance display boards along a line will be _____ ( )
a) serially connected b) parallel connected c) daisy chained d) none

26) The maximum length of the RS485 cable used in IPIS should be _____ ( )
a) 15m b) 1200m c) 1000m d) 500m

27) In IPIS Data speed in RS232 cable should be _____ ( )
a) 57.6 kbps b) 4.8 kbps c) 100 kbps d) 96.2 kbps

28) In version-4 of the IPIS, the following changes have been made ( )
a) IP addresses to be assigned to the devices
b) SMD LEDs to be used in the display boards
c) WI-FI connectivity between the system and the display boards
d) All the above are correct

29) In IPIS, from version-3 onwards colour of the LEDs used in PDBs and CGDBs should be _____ ( )
a) blue b) yellow c) white d) None

30) The maximum length of RS232 cable used in IPIS is_____ ( )
a) 15m b) 1200m c) 1000m d) None

31) In IPIS the data speed in RS485 cable is _____ ( )
a) 57.6 kbps b) 4.8 kbps c) 35 Mbps d) 02 Mbps

32) For one output port of MDCH, the numbers of display boards can be connected on point to multipoint basis are ( )
a) 2 boards b) 4 boards c) 6 boards d) 8 boards

33) Slave clocks which cannot function without the master clock are called ___ ( )
a) Impulse clocks b) Real time clocks c) Stand alone clocks d) None

34) The master-slave digital clocks obtain common reference time from the __ ( )
a) GPS orbiting the earth b) Master clock only
c) Real time clock only d) None

35) The backup for GPS clock is from _____ ( )
a) Common reference time from GPS b) Real time clock
c) Slave clock d) None

36) The oscillator in digital clocks is crystal controlled because of _____ ( )
a) The less space it occupies b) High frequency stability of crystal oscillator
c) Less space and high frequency stability d) None

37) Communication between master and slave clocks can be_____ ( )
a) Wired b) Wireless c) Both a & b d) None

38) Rail Radar is an application introduced by CRIS that enable commuters to know _____ ( )
a) Location of the train b) Running status of the train
c) Train route & stoppages d) All

39) The blue arrows in the Google map indicate the _____ trains. ( )
a) Super fast b) Mail/Express c) Passenger d) On time

40) The red arrows in the Google map indicates the_____ trains ( )
a) Super fast b) Mail/Express c) Passenger d) Delayed

41) Electronic Reservation Chart is displayed through _____ ( )
a) LED monitors b) LCD monitors c) CRT monitors d) None

42) Electronic Reservation Chart in the platform displays_____ status ( )
a) Confirmation b) RAC c) Waitlisted d) All

43) Charting server receives Chart data from ____ server via railway network. ( )
a) PRS b) NTES c) UTS d) None

44) All the Electronic Reservation Chart displays are connected to the server via LAN with its _____ address ( )
a) Unique IP b) Multicast c) Hardware d) None

45) _____enables to extend the distance of the LAN without any loss of data in Electronic Reservation Chart system. ( )
a) LAN Extender b) Modem c) Router d) None

46) Type of touch screen used in Indian railways for PRS enquiry. ( )
a) Resistive touch screen b) Capacitive touch screen
c) Surface acoustic wave touch screen d) Infrared touch screen

47) Type of RAID level used in IP based surveillance system is ( )
a) RAID -2 b) RAID -3 c) RAID -4 d) RAID -5

48) Video analytical software is used in ____ system ( )
a) Touch screen b) IP based video surveillance c) IVRS d) IPIS

49) RDSO specification of IP based Surveillance system is ( )
a) RDSO/SPN/TC/65/2019 b) RDSO/SPN/TC/60/2019
c) RDSO/SPN/TC/61/2019 d) RDSO/SPN/TC/50/2019

50) RDSO specification of GPS clock is ( )
a) RDSO/SPN/TC/62/2008 b) RDSO/SPN/TC/65/2008
c) RDSO/SPN/TC/61/2006 d) RDSO/SPN/TC/52/2006

51) Sound intensity is expressed in _____. ( )
a) Watt/cm^2 b) Watt/cm c) Volt/cm d) Volt/cm^2

52) The lowest acoustic pressure that gives rise to a sensation of hearing is called ( )
a) Threshold of audibility b) Loudness c) Pitch d) none

53) The highest pressure to which the ear can respond without experiencing pain is called ( )
a) Threshold of pain b) Loudness c) Pitch d) none

54) Sound pressure and sound pressure level are analogous to ( )
a) Voltage and voltage level in the field of electricity
b) Current and current level in the field of electricity
c) Power and power level in the field of electricity
d) Resistance and resistance in the field of electricity

55) Acoustic impedance of a sound medium is the complex quotient of the sound pressure and the particle velocity multiplied by the unit of the _____. ( )
a) Area b) Perimeter c) Volume d) none

56) Threshold of pain is _____. ( )
a) 140 dB b) 110 dB c) 40 dB d) 20 dB

57) Threshold of hearing is . ( )
a) 20 dB b) 40 dB c) 60 dB d) 80 dB

58) _____ operated microphones employ a diaphragm with only one surface exposed to the sound source. ( )
a) Pressure b) Velocity c) Both a & b d) none

59) A _____ microphone is one in which the electrical output substantially corresponds to the instantaneous particle velocity in the addressed sound wave. ( )
a) Velocity b) Pressure c) Both a & b d) None

60) _____ microphones are velocity-operated microphones. ( )
a) Ribbon b) Dynamic c) Condenser d) cordless

61) The carbon, crystal, dynamic and capacitor microphones are _____ operated microphones. ( )
a) Pressure b) Velocity c) Both a & b d) none

62) _____ microphones employ output transformers. ( )
a) Dynamic b) Ribbon c) Condenser d) carbon

63) The output impedance of a dynamic microphone is approximately _____. ( )
a) 20 ohms b) 40 ohms c) 60 ohms d) 80 ohms

64) _____ microphones are high impedance microphones. ( )
a) capacitive b) Ribbon c) Carbon d) dynamic

65) _____microphones require polarizing voltage. ( )
a) Condenser b) Dynamic c) Ribbon d) Crystal

66) _____ is the amount of voltage developed or generated by the microphone for an applied sound pressure at a test frequency of 1000 Hz. ( )
a) Sensitivity b) Resolution c) Power d) All

67) Frequency Response is the ability of a microphone to produce a proportionate output to the sound pressure applied for the specified range of ____. ( )
a) Frequencies b) Gain c) Voltage d) power

68) The function of the __ is to convert electrical energy into acoustic energy ( )
a) Loudspeaker b) Microphone c) Amplifier d) None

69) ___ type of loud speaker is a direct radiator. ( )
a) Cone b) Horn c) Both a & b d) None

70) _____ type loud speaker is an indirect radiator. ( )
a) Horn b) Cone c) Both a & b d) None

71) ___ speakers are used to reproduce the frequency range of 50 Hz to 12 KHz. ( )
a) High fidelity b) Low fidelity c) Tweeter d) Woofer

72) Limited frequency use can be prevented through a multiple speaker system comprising _____ speakers. ( )
a) separate b) same c) any combination d) none

73) _____ reproduces low frequency notes. ( )
a) Woofer b) Tweeter c) Both a & b d) None

74) _____ reproduces high frequency notes. ( )
a) Tweeter b) Woofer c) Both a & b d) None

75) The minimum distance between column speakers in a row should be_____.( )
a) 2m b) 4m c) 8m d) 10m

76) An ___ in a PA system is a device, which takes low level input signal and amplifies to a high level output signal to the desired output power. ( )
a) Amplifier b) Microphone c) Speaker d) None

77) ___ is a low frequency control. ( )
a) Bass b) Treble c) Aux d) Select switch

78) ____ is a high frequency control. ( )
a) Treble b) Bass c) Aux d) Select switch

79) No battery current is consumed when the ___ is working on AC mains. ( )
a) Amplifier b) Microphone c) Speaker d) None

80) For the connection of loudspeakers in ____ matching method, three terminal strips are provided viz, com., 100V and 70V. ( )
a) Impedance b) Voltage c) Current d) Power

81) For the connection of loudspeakers in ____ matching method, four terminal strips are provided viz., com., 4Ω, 8 Ω and 16Ω. ( )
a) Impedance b) Voltage c) Current d) Power

82) Amplifiers are rated at some specified output in watts with a declared harmonic content, of about __%. ( )
a) 5 % b) 10 % c) 15 % d) 20 %

83) ___ control routes the channel to either left or right output ( )
a) PAN b) TILT c) ZOOM d) All

84) The mean level of sound pressure shall be ____dB above the noise level. ( )
a) 5 to 15 dB b) 25 to 45 dB c) 50 to 100 dB d) 100 to 150 dB

85) The frequency response for the entire system should be within ___ from 100 Hz to 10 KHz. ( )
a) ± 3 dB b) ± 5 dB c) ± 30 dB d) ± 15 dB

86) The total harmonic distortion of the entire system shall not exceed ___% at the rated power output of the amplifier. ( )
a) 5 % b) 15 % c) 50 % d) 75 %

87) The signal to noise ratio under normal operating conditions of the amplifying systems shall not be worse than __ dB. ( )
a) 50 dB b) 100 dB c) 150 dB d) 200 dB

88) In the normal operating conditions sound pressure level is ____ dB. ( )
a) 70 to 80 dB b) 100 to 120 dB c) 150 to 180 dB d) 10 to 20 dB

89) The sound reflection reaching a listener ear at least 1/15th of a second after the original sound is termed as. ( )
a) Echo b) Reverberation c) Sound foci d) None

90) _____ is an accumulation of echoes. ( )
a) Reverberation b) Echo c) Sound foci d) None

91) _____ is a one way communication in which one can call or summon the individuals or the general public. ( )
a) Paging b) Talkback c) Both a & b d) None

92) The system, which facilitates to talk back to the caller by the individual, is called _____ system. ( )
a) Paging & talkback b) Public address c) Auto announcement d) None

93) The effective impedance of the load should be matched with the _____ impedance of the amplifier. ( )
a) Output b) Input c) Both a & b d) None

94) Line matching transformers (LMT) are being used in ( )
a) Voltage matching method b) Impedance matching method
c) Current matching method d) Power matching method

95) The power transfer is maximum in _____. ( )
a) impedance matching b) Voltage matching method
c) Power matching method d) Current matching method

96) Auxillary port is used to connect ____ ( )

a) Tape recorder/ DVD b) TV c) Projector d) All

97) Pre amp out socket is used to connect _____ ( )

a) Tape recorder b) TV c) Projector d) All

98) Mixer is used to connect ___ device ( )

a) Input b) Output c) Both d) None

99) Horn speaker is used for ____ matching ( )

a) Impedance matching b) Voltage matching c) Both d) None

100) At railway stations _____ type of matching method is used for connecting speakers. ( )

a) Voltage b) Impedance c) Current d) Power

ANSWERS KEY

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

ST-46 : ELECTRONIC AND IP EXCHANGE

1) In ISDN what does the word 'N' stands for ( )
   a) Network b) near c) networking d) net

2) ISDN supports _____services ( )
   a) Voice b) Data c) Video d) all

3) What type of Signalling is used in ISDN Exchanges ( )
   a) CAS b) CCS- 7 c) MFC d) R2-MFC

4) What is the D-channel data rate in ISDN BRI Interface ( )
   a) 64 Kbps b) 16 Kbps c) 48 Kbps d) 16KBps

5) What is the D-channel data rate in ISDN PRI Interface ( )
   a) 64 KBps b) 72 Kbps c) 64 Kbps d) 16 Kbps

6) In ISDN ,BRI Transmission rate are ( )
   a) 128 Kbps b) 144 Kbps c) 2048 Kbps d) 192 Kbps

7) In ISDN PRI Transmission rate are ( )
   a) 2048 Kbps b) 2000 Kbps c) 2.048 Kbps d) 2048 Mbps

8) How many channels at present in European PRI interface rate ( )
   a) 32 Channels b) 30 Channels c) 23 Channels d) 64 channels

9) How many Time slots at present in European PRI interface rate ( )
   a) 32 Time slots b) 30 Time slots c) 23 Time slots d) 64 Time slots

10) What is the H0-channel date in ISDN ( )
   a) 512 Kbps b) 1024 Kbps c) 192 Kbps d) 384 Kbps

11) What is the reference point between ISDN local exchange to Network termination 1 at Customer premises ( )
   a) R- Interface b) T- Interface c) S/T- Interface d) U- Interface

12) What is the reference point between Terminal Adapter and terminal equipment 2 at Customer premises ( )
   a) U- Interface b) T- Interface c) R- Interface d) S/T- Interface

13) What type of encoding is used in customer premises to ISDN Switch – ( )
   a) 2B/2Q b) 1B/1Q c) 1B/2Q d) 2B/1Q

14) HLDC means High-level _____ link control. ( )
   a) Digital b) Data c) Design d) Distance

15) CLIP- Calling line _____presentation ( )
a) Identification b) Index c) Instant d) Inbuilt

16) COLP- Connected _____ identification presentation ( )
a) Line b) Link c) Length d) Large

17) CUG - _____ user group ( )
a) Closed b) Calling c) Client d) Control

18) CTI- Computer _____ integration ( )
a) Telephony b) Telegraphy c) Telepresentation d) Touch

19) ACD-automatic ____ distribution ( )
a) Call b) Control c) Connected d) Central

20) DECT-_____ enhanced cordless telephone ( )
a) Digital b) Distance c) Discrete d) None

21) CAP- Computerized Attendant _____ ( )
a) Position b) Presentation c) Point d) Part

22) Main processor MEX card of coral flexicom 5000 contains _____ processor ( )
a) 80386 b) 80286 c) 8086 d) 80186

23) Which is the control card in coral flexicom 6000 ? ( )
a) UGW b) IDSP c) DTR d) MCP

24) Which is the switching card in coral flexicom 6000 ? ( )
a) DTR b) IDSP c) MCP d) GC

25) Which is the peripheral card in coral flexicom 6000 ? ( )
a) MCP b) CNF c) DTR d) SFT

26) Which is the service card in coral flexicom 6000 ? ( )
a) TEM b) SFT c) SA d) DTR

27) Which is the analog subscriber card in coral flexicom 6000 ? ( )
a) TBR b) TWL c) SFT d) SA

28) Which is the digital subscriber card in coral flexicom 6000 ? ( )
a) TBR b) TEM c) SA d) SFT

29) Which is the analog trunk card in coral flexicom 6000 ? ( )
a) SFT b) PRI c) TBR d) TEM

30) Which is the digital trunk card in coral flexicom 6000 ? ( )

a) TC b) TWL c) TEM d) PRI

31) Which is the BRI card in coral flexicom 6000 ? ( )

a) TWL b) TC c) TEM d) TBR

32) Which is the VoIP card in coral flexicom 6000 ? ( )

a) MCP b) SFT c) IDSP d) UGW

33) Which is the DTMF tone dialing support card in coral flexicom 6000 ? ( )

a) GC b) MCP c) IDSP d) DTR

34) Which is the caller ID card in coral flexicom 6000 ? ( )

a) GC b) MCP c) DTR d) IDSP

35) Which is the multifunction resource card in coral flexicom 6000 ? ( )

a) DTR b) IDSP c) MCP d) DRCF

36) Which card contains serial ports in coral flexicom 6000 ? ( )

a) MCP b) UGW c) IDSP d) DRCF

37) Which card contains internal modem in coral flexicom 6000 ? ( )

a) UGW b) GC c) MCP d) DRCF

38) What is the ringing voltage for analog phones in ISDN exchanges ? ( )

a) 75V@40 Hz b) 75V@35 Hz c) 75V@30 Hz d) 75V@25 Hz

39) Which card contains COM2 port in coral flexicom 6000 ? ( )

a) UGW b) GC c) MCP d) DRCF

40) Which card contains SAU in coral flexicom 6000? ( )

a) IDSP b) UGW c) MCP d) GC

41) How many peripheral shelves are supported in coral flexicom 6000? ( )

a) 12 b) 14 c) 16 d) 18

42) How many slots are there in a peripheral shelf in coral flexicom 6000? ( )

a) 14 b) 16 c) 18 d) 20

43) In which slot PB-ATS card is available in coral flexicom 6000? ( )

a) 1 b) 2 c) 1 & 2 d) 3

44) At Maximum how many shelves are controlled by 01 PB card in coral 6000? ( )

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

45) How many time slots are allotted for one peripheral shelf in coral flexicom 6000?( )
a) 128 b) 256 c) 512 d) 1024

46) How many time slots are allotted for each PB card in coral flexicom 6000 ? ( )
a) 128 b) 256 c) 512 d) 1024

47) What is the time slot switching capacity of 32GC card in coral flexicom 6000?( )
a) 1024 b) 2048 c) 4096 d) 8192

48) How many connectors in MPG-ATS for each 32GC card in coral flexicom 6000?( )
a) 4 b) 6 c) 8 d) 10

49) How many IP ports are supported by a UGW card in coral flexicom 6000 ? ( )
a) 254 b) 252 c) 250 d) 248

50) How many pairs are required to connect a digital telephone in coral 6000 ? ( )
a) 4 b) 3 c) 2 d) 1

51) What is the nominal working voltage for isdn exchanges ? ( )
a) 54v dc b) - 52v dc c) 50v dc d) - 48v dc

52) How many pairs are required to connect PRI trunk ? ( )
a) 1 b) 2 c) 3 d) 4

53) Up to what length a DECT telephone works on 0.5mm dia copper pair? ( )
a) 1 km b) 2 km c) 3 km d) 4 km

54) Foreign Exchange Subscriber card is used to connect ( )
a) Analog phone b) Digital phone c) Both d) none

55) Hyper terminal default bit rate for accessing coral flexicom 6000 is ( )
a) 9600 Kbps b) 9600 Bytes c) 9.6 Bytes d) 9600 Bytes

56) Clocking and synchronization of exchange was done by which card- ( )
a) 32 GC b) MCP-ATS c) DRCF d) DTR

57) Which card is Digital tone generators in coral flexicom 6000 ( )
a) 32 GC b) MCP-ATS c) DRCF d) DTR

58) Which card is used for computer-telephony integration in Coral flexicom-6000 ( )
a) 32 GC b) MCP-ATS c) CLA-ATS d) DTR

59) In a particular copy the diagnostic indicator present in 32 GC card "S- Green "– light is constant then that copy is in which mode in Coral flexicom-6000 ( )
a) Standby mode b) maintenance mode c) Active mode d) Faulty Mode

60) What is child card present at the back side of Mother board of PB-ATS card-in even peripheral shelf in Coral flexicom-6000 ( )

a) PBD-ATS b) MGP-ATS c) CLA-ATS d) PBD-24S

61) What type of cable is used to connect between MPG-ATS to PBD-ATS of coral flexicom 6000 ( )

a) FC-19 b) FC-18 c) H.43 d) H.41

62) What is the number of peripheral shelf unit, if it is connected to Port P5 of right copy or port P13 of left copy of MPG-ATS in control self through FC-19 cable in Coral 6000 ( )

a) Unit 4 b) Unit 5 c) Unit 8 d) Unit 9

63) What is numbering of even and odd shelf of Peripheral shelf unit 6 ( )

a) shelf-13, shelf 14 b) shelf-2, shelf 3

c) shelf-11, shelf 12 d) shelf-12, shelf 13

64) What facility does SA card has compared to SLS card in coral flexicom 6000 ( )

a) Inbuilt ringer circuit b) High loop resistance c) both a & b d) None

65) How many slots are there in siemens hipath 3800 exchange ? ( )

a) 14 b) 8 c) 10 d) 12

66) Which slot contains main control card in siemens hipath 3800 exchange? ( )

a) 5 b) 6 c) 7 d) 8

67) How many pairs are wired for each slot to MDF in siemens 3800 exchange? ( )

a) 22 b) 24 c) 26 d) 28

68) How many DECT cards are supported in siemens hipath 3800 exchange? ( )

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

69) How many ports are there in a DECT card in siemens 3800 exchange? ( )

a) 14 b) 16 c) 18 d) 20

70) How many radio base stations are supported in siemens 3800 exchange? ( )

a) 32 b) 64 c) 256 d) 128

71) How many pairs are required to connect a base station in hipath 3800 exchange?( )

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

72) How many simultaneous calls are supported by one base station in hipath 3800?( )

a) 5 b) 10 c) 16 d) 20

73) How many DECT handsets are supported in siemens hipath 3800 exchange? ( )

a) 250 b) 256 c) 254 d) 252

74) What is the radius of operation of a base station in siemens 3800 exchange? ( )

a) 100 mts b) 200 mts c) 300 mts d) 400 mts

75) How many power supply unit does siemens hipath 3800 can accommodate ( )

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

76) Battery power supply connected to which pin on mother board of Hi-path 3800( )

a) X210 b) X211 c) X110 d) X100

77) What is the name of Digital BRI card in Siemens Hi-path Exchange? ( )

a) SMTD b) SLMO c) SMTO d) SLCN

78) Which card of Siemens Hipath 3800 Supports Cordless Telephone? ( )

a) SLCN b) DUIN c) SMTD d) DUIT

79) In ISDN exchange, maximum permissible line loop resistance is ( )

a) 1200 ohms b) 600 ohms c) 1500 ohms d) 1400 ohms

80) In coral 6000 exchange, control cards are in __mode of operation. ( )

a) Cold standby b) Hot standby c) Changeover d) None

A N S W E R K E Y

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

ST-47 : Tetra, GSM-R and LTE

1) Frequencies allotted for Tetra based communication systems are ( )
   a) 260 - 300 MHz & 380 - 400 MHz bands
   b) 260 - 300 MHz & 410 - 430 MHz bands
   c) 380 - 400 MHz & 410 - 430 MHz bands
   d) None

2) The TETRA system does not support railway-signalling applications. ( )
   a) The statement is false b) The statement is true
   c) It can be decided subject to other conditions d) None

3) Mobile Train Radio system installed in Nagpur - Itarsi Section works on _____ frequency ( )
   a) 260 – 300 MHz b) 410 - 430 MHz c) 380 - 400 MHz d) 314 - 322 MHz

4) UNIVERSAL EMERGENCY COMMUNICATION (UEC) Operates on _____ frequency ( )
   a) 146.2 - 151.45 MHz b) 260.2 - 300.45 MHz
   c) 159.6 - 162.45 MHz d) both a and c

5) Full form of TETRA is _____ ( )
   a) Terrestrial Trunk Radio b) Train emergency trunk Radio
   c) Telecom terrestrial Radio d) None

6) The frequency band of VHF Communication is . ( )
   a) 30 – 300 MHz b) 30 – 300 Hz c) 30 – 300 GHz d) 30 – 300 KHZ

7) The frequency allotted by WPC (Wireless Planning and Coordination wing of ministry of communication) in VHF for Indian Railways are____ ( )
   a) 130MHz - 140MHz b) 146 - 174 MHz
   c) It is not fixed& randomly allotted d) both a & b

8) HF Communication on IR are operates on _____ modes ( )
   a) Simplex b) Half-duplex c) Full Duplex d) all

9) The average range of a Walkie - Talkie (Hand Held set) is ( )
   a) 5 to 6 Km b) 8 to 10 Km c) 1 to 2 Km d) none

10) In Cellular Communications the Cells are to be _____ separated to avoid Co-channel Interference. ( )
   a) Time b) Space c) Both time and space d) None

11)There should be a minimum overlap in order to provide – ( )

a) Seamless Handoff for a Roaming Subscriber

b) Co-channel Interference

c) Both a & b

d) None

12)Providing Hexagonal shaped cells ensures _____ ( )

a) Maximum coverage area b) Minimum transmitting sites

c) reduced Installation and Maintenance Costs d) All

13)In Cellular geometry co channel reuse ratio can be expressed as _____ ( )

a) D/R = √ 3N b) D/R = 3N c) D/R = 3N/2 d) None

14)Frequency can be reused after _____ no of cells ( )

a) N=6 b) N=7 c) N=5 d) None

15)In a Cluster of Cells, the Main Transmitter, Receiver and Antenna System(BTS) is located at _____ ( )

a) At the Centre of the Cell b) At the vertex of the cell

c) It depends on site condition d) None

16) A mobile handset with higher S/N Ratio is assigned a Channel with _ ( )

a) Higher Reuse Factor b) Lower Reuse Factor

c) Cannot be decided with given data d) None

17)Typically Handsets nearer to the Cell-center are allocated Channels from ___( )

a) Low Frequency Reuse factor b) High Frequency Reuse factor

c) Cannot be decided with given data d) None

18)Reasons for using sectored antennas in cellular Communication ( )

a) Sector Antennas increase Co-channel I/F and improve the mean S/N ratio

b) Sector Antennas reduce Co-channel I/F and improve the mean S/N ratio

c) Sector Antennas reduce Co-channel I/F and reduce the mean S/N ratio

d) Sector Antennas increase Co-channel I/F and reduce the mean S/N ratio

19)No two adjacent Cells in a Cluster have the same – ( )

a) Radio Channels b) Channel frequency c) Both a & b d) None

20)Which agency is primarily responsible for development of GSM ( )

a) ANSI b) ITU(T) c) ETSI d) None

21)Mobile station (MS) basically consists of ( )

a) Mobile Equipment (ME) & Subscriber Identity Module (SIM)

b) IMEI + SIM

c) BTS & BSC

d) None

22)BTS in general consists of ( )
a) TRX (Transeiver) b) Combiner & duplexer c) Power Amplifier d) All

23)The function of _____ is Storage of subscriber related information. ( )
a) SIM card b) Handset c) HLR d) VLR

24)The _____ performs the Radio transmission/reception. ( )
a) Mobile station b) HLR c) VLR d) AUC

25)___ is a part of the Base Station Subsystem (BSS) for system management. ( )
a) BTS b) AUC c) MSC d) HLR

26)_____ is used for separating sending and receiving signals to/from antenna. ( )
a) Duplexer b) Simplex c) Multiplex d) None

27)Encryption of transmission Data Streams are being done at . ( )
a) BTS b) BSC c) MSC d) HLR

28)_____ reserves the Radio Channel Frequencies. ( )
a) BSC b) MSC c) BSS d) HLR

29)The Switching part, is controlled by the _____ in GSM. ( )
a) MSC b) BSC c) BSS d) HLR

30)Subscriber relevant data are kept in a Database called . ( )
a) HLR b) VLR c) AUC d) MSC

31)_____ protects User Identity and allows a Secured Transmission. ( )
a) AUC b) HLR c) VLR d) BSC

32)____ band, 935-960MHz for Up-link (MS to BTS) and 890-915 MHz for Down link ( )
a) GSM-900 b) GSM-1800 c) GSM-1900 d) GSM-2100

33)The channel spacing in GSM is of ____ KHz. ( )
a) 200 KHz b) 400 KHz c) 600 KHz d) 800 KHz

34)The Duplex spacing in GSM will be ___ (between TX and RX). ( )
a) 45 MHz b) 55 MHZ c) 85 MHz d) 100 MHz

35)The Air Interface is the interface between the ___ and the MS. ( )
a) BTS b) BSC c) MSC d) HLR

36)The Physical Layer is a ___ Mb/s Digital Connection. ( )
a) 2 Mbps b) 4 Mbps c) 6 Mbps d) 8 Mbps

37)One or more logical channels can be transmitted on a ____ channel. ( )
a) Physical b) Logical c) Network d) None

38)____ is used to time synchronize the mobile station. ( )

a) SCH b) BCCH c) FCH d) CBCH

39)_____ is used for transmission of system configuration information in a cell. ( )

a) BCCH b) SCH c) FCH d) CBCH

40)Full form of ETSI is _____ ( )

a) European Telecommunications Standards Institute

b) European Technical Standards Institute

c) European Telecommunications Standards Institute

d) Engineering & Technology Standards Institute

41)Full form of CDMA is _____ ( )

a) Carrier Division Multiple Access b) Carrier Detection Multiple Access

c) Code Division Multiple Access d) Code Detection Multiple Access

42)GPRS is _____ network. ( )

a) a data network that overlays a second generation GSM network

b) a voice network that overlays a second generation GSM network

c) It comes under 3G category of evolution

d) None

43)In order to integrate GPRS into the existing GSM architecture, a new class of network nodes called _____ are to be introduced ( )

a) packet control unit (PCU) in GSM network b) GPRS support nodes (GSN)

c) gateway GPRS support node (GGSN) d) Both a & c

44)The internal backbone of GPRS network is _____ ( )

a) An IP based network b) PSTN Network

c) Circuit switched network d) Both

45)Class A mobile station in GPRS Network ( )

a) it can only use one of the two services at a given time

b) it supports simultaneous operation of GPRS and conventional GSM services

c) Simultaneous registration of GPRS & GSM (and usage) is not possible

d) None

46)Class B mobile station in GPRS Network ( )

a) it can only use one of the two services at a given time

b) it supports simultaneous operation of GPRS and conventional GSM services

c) Simultaneous registration of GPRS & GSM (and usage) is not possible

d) None

47) Class C mobile station in GPRS Network ( )
a) it can only use one of the two services at a given time
b) it supports simultaneous operation of GPRS and conventional GSM services
c) Simultaneous registration of GPRS & GSM (and usage) is not possible
d) None

48) Signalling from a GSN to a MSC is done through ( )
a) GGSN network b) SGSN network c) SS7 network d) None

49) The Range of Data Rates provided by GPRS Network ( )
a) from 16 to 64kbps b) from 64 to 2048kbps
c) from 9.6 to 171 kbps d) None

50) In order to upgrade from GSM to GPRS the new hardware to be provided in BSC is _____ ( )
a) PDP unit b) PCU c) Both a & b d) None

51) The PCU (Packet control unit) provides __ to the base station subsystem ( )
a) Signalling required for voice b) control channels
c) a physical and logical data I/F d) None

52) WLL is also called as ( )
a) Radio in the loop (RITL) b) Fixed-radio access (FRA)
c) Both a & b d) None

53) _____ is an interface between subscriber's wired devices and WLL network. ( )
a) The fixed subscriber unit (FSU)
b) The radio subscriber unit (RSU)
c) The fixed wireless network interface unit (FWNIU)
d) None

54) To ensure better trade off to fulfil the requirements of high capacity with low service fee, the data rate of channel is fixed at _____ ( )
a) Up to 16Kbps b) Up to 32 Kbps c) Up to 64 Kbps d) None

55) WLL is a system that connects subscribers to the ( )
a) PLMN b) PSTN c) IPX d) ISDN

56) WLL System includes _____ ( )
a) cordless access systems b) proprietary fixed radio access
c) fixed cellular systems d) All

57) The main challenge involved in implementation of WLL _____ ( )
a) expansion of landscape in service types b) Complicated cabling
c) costly equipment d) None

58)GSM-R is the communication standard chosen by ( )

a) EIRENE b IEEE) c) EIA/TIA d) None

59)MTC is call from the ( )

a) Train driver to controller b) Controller to train driver

c) Train driver to train guard d) Train driver to station master

60)GMS-R provides communication up to a speed of ( )

a) 500 km/h b) 400 km/h c) 300 km/h d) 200 km/h

A N S W E R K E Y

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

ST-48 : RAIL NET, WI-FI SYSTEM, PRS, UTS & FOIS

1) The _____ is the physical path over which a message travels. ( )
(a) Protocol (b) Medium (c) Signal (d) All

2) Set of rules which is used by computers to communicate with each other across a network ( )
(a) Protocol (b) Medium (c) Signal (d) All

3) Frequency of failure & network recovery time after a failure is measured as ( )
(a) Performance (b) Reliability (c) Security (d) Feasibility

4) In data communication, coding used for sending information is ( )
(a) Unicode (b) ASCII (c) Bipolar (d) All

5) Which topology uses a multipoint connection? ( )
(a) Mesh (b) Star (c) Bus (d) Ring

6) _____ refers to the structure or format of the data, meaning the order in which they are presented. ( )
(a) Semantics (b) Syntax (c) Timing (d) All

7) In ___ mode, each station can both transmit and receive, but not at the same time. When one device is sending, the other can only receive, and vice versa. ( )
(a) Simplex mode (b) Half duplex mode
(c) Full duplex mode (d) None.

8) Data flow between two devices can occur in a _____ way. ( )
(a) simplex (b) half-duplex (c) full-duplex (d) All

9) _____ refers to the physical or logical arrangement of a network. ( )
(a) Data flow (b) Mode of operation
(c) Topology (d) None

10) _____ is a collection of many separate networks. ( )
(a) WAN (b) An internet (c) LAN (d) None

11) The process-to-process delivery of the entire message is the responsibility of the _____ layer. ( )
(a) Transport (b) Application (c) Physical (d) Network

12) Mail services are available to network users through the _____ layer. ( )
(a) Data link (b) Physical (c) Transport (d) Application

13) As the data packet moves from the upper to the lower layers, headers are __( )
(a) Added (b) Removed (c) Rearranged (d) Modified

14) When a host on network A, sends a message to a host on network B, which address does the router look at? ( )
(a) Port (b) Logical (c) Physical (d) None

15) The __ layer is responsible for moving frames from one hop to the next ( )
(a) Physical (b) Data link (c) Transport (d) None

16) If only 1 bit of information can be transmitted over the data transmission medium at a time then it is called ( )
(a) Serial communication (b) Parallel communication
(c) Both (d) None

17) If more than 1 bit of information is transmitted over the data transmission medium at a time then it is called ( )
(a) Serial communication (b) Parallel communication
(c) Both (d) None

18) Networks that connect computers and resources together in a building or buildings close together ( )
(a) LAN (b) WAN (c) MAN (d) PAN

19) Networks that connect LANs together within a city. ( )
(a) LAN (b) WAN (c) MAN (d) PAN

20) communication system linking LANs between cities, countries & continents ( )
(a) LAN (b) WAN (c) MAN (d) PAN

21) Layer-3 in OSI model is called ( )
(a) Physical layer (b) Data layer (c) Network layer (d) Transport layer

22) __ is a type of transmission impairment in which the signal loses strength due to the different propagation speeds of each frequency that makes up the signal ( )
(a) Attenuation (b) Distortion (c) Noise (d) Decibel

23) A _____ signal is a composite analog signal with an infinite bandwidth. ( )
(a) Digital (b) Analog (c) either (a) or (b) (d) neither (a) nor (b)

24) Which encoding method uses alternating positive & negative values for 1s? ( )
(a) NRZ-I (b) RZ (c) Manchester (d) AMI

25) In a _____ scheme, all the signal levels are on one side of the time axis, either above or below. ( )
(a) Polar (b) Bipolar (c) Unipolar (d) All

26) In ___ schemes, the voltages are on the both sides of the time axis. For example, the voltage level for 0 can be positive and the voltage level for 1 can be negative.( )
(a) Polar (b) Bipolar (c) Unipolar d) All

27) In _____ the level of the voltage determines the value of the bit. ( )
(a) NRZ-I (b) NRZ-L (c) either (a) or (b) (d) neither (a) nor (b)

28) In Manchester and differential Manchester encoding, the transition at the middle of the bit is used for _____. ( )
(a) Bit transfer (b) Baud transfer (c) Synchronization (d) None

29) In _____encoding, we use three levels: positive, zero, and negative. ( )
(a) Unipolar (b) Bipolar (c) Polar (d) None

30) _____ substitutes eight consecutive zeros with 000VB0VB. ( )
(a) B4B8 (b) HDB3 (c) B8ZS (d) None

31) category-6 cable contains how many pairs of conductors ( )
(a) 1 pair (b) 2 pair (c) 3 pair (d) 4 pair

32) Example of unguided media is ( )
(a) Co-axial cable (b) Fiber optic cable
(c) Twisted pair cable (d) Microwave

33) Line coding used in ISDN exchange is ( )
(a) 2B1Q (b) HDB-3 (c) Pseudoternary (d) AMI

34) _____line encoding is also called self-clocking line encoding. ( )
(a) 2B1Q (b) HDB-3 (c) Manchestor (d) AMI

35) Example of bipolar line coding is ( )
(a) 2B1Q (b) HDB-3 (c) Manchestor (d) All

36) pulse code modulation technique is used in ( )
(a) analog to analog conversion (b) digital to analog conversion
(c) digital to digital conversion (d) analog to digital conversion

37) Example of analog to analog conversion is ( )
(a) amplitude modulation (b) frequency modulation
(c) phase modulation (d) all

38) Example of digital to analog conversion is ( )
(a) ASK (b) FSK (c) PSK (d) ALL

39) The value of signal to noise ratio(SNR) should always be ( )
(a) Low (b) Medium (c) High (d) None

40) Attenuation loss is measured in ( )
(a) Decibel (b) Volts (c) Watt (d) Ohm

41) V.35 interface contains how many pins ( )
(a) 18 pins (b) 25 pins (c) 34 pins (d) 40 pins

42) HDLC is an acronym for _____. ( )
(a) High-duplex line communication (b) Half-duplex digital link combination
(c) High-level data link control (d) Host double-level circuit

43) Flow control is needed to prevent _____. ( )
(a) Overflow of the sender buffer (b) Overflow of the receiver buffer
(c) Bit errors (d) Collision between sender & receiver

44) When data and acknowledgment are sent on the same frame, this is called _____. ( )
(a) Back packing (b) Piggy packing (c) Piggy backing (d) A good idea

45) The shortest frame in HDLC protocol is usually the _____ frame. ( )
(a) Information (b) Management (c) Supervisory (d) None

46) Which error detection method uses ones complement arithmetic? ( )
(a) Simple parity check (b) Checksum
(c) Two-dimensional parity check (d) CRC

47) Which error detection method consists of just one redundant bit per data unit( )
(a) Two-dimensional parity check (b) CRC
(c) Simple parity check (d) Checksum

48) Which error detection method involves polynomials? ( )
(a) CRC (b) Simple parity check
(c) Two-dimensional parity check (d) Checksum

49) The Hamming code is a method of _____. ( )
(a) Error detection (b) Error correction
(c) Error encapsulation (d) (A) and (B)

50) What is the efficiency of 4B/5B block encoding? ( )
(a) 60 percent (b) 80 percent (c) 20 percent (d) 40 percent

51) What is the hexadecimal equivalent of the Ethernet address 01011010 00010001 01010101 00011000 10101010 00001111 ( )

(a) 5A-11-55-18-AA-0F (b) 5A-88-AA-18-55-F0

(c) 5A-81-BA-81-AA-0F (d) 5A-18-5A-18-55-0F

52) By default all the ports in a switch are in ( )

(a) VLAN0 (b) VLAN1 (c) VLAN2 (d) VLAN3

53) VLAN can be created from ----- to ------range ( )

(a) 1 to 100 (b) 1 to 500 (c) 2 to 1001 (d) All

54) Networking standard that supports Virtual LANs (VLANs) on an Ethernet network. ( )

(a) IEEE 802.1Q (b) IEEE G.703 (c) IEEE V.35 (d) ALL

55) Power over Ethernet (POE) technology is used in ( )

(a) IP camers (b) Switches (c) Access points (d) All

56) IEEE 802.3u supports a distance of ( )

(a) 100 mtrs (b) 200 mtrs (c) 300 mtrs (d) 500 mtrs

57) In 10 base-F, 10 indicates ( )

(a) 10 kbps (b) 10 Mbps (c) 10 Gbps (d) 10 Tbps

58) In 10 base 5, 5 indicates ( )

(a) 5 mtrs (b) 50 mtrs (c) 500 mtrs (d) 5000 mtrs

59) Fast Ethernet indicates speed of ( )

(a) 10 Mbps (b) 100 Mbps (c) 1000 Mbps (d) None

60) CSMA/CA is used in IEEE standard ( )

(a) 802.3 (b) 802.4 (c) 802.5 (d) 802.11

61) Example of random access protocol ( )

(a) CSMA (b) CSMA/CD (c) CSMA/CA (d) ALL

62) Identify the class of IP address 191.1.2.3. ( )

(a) Class A (b) Class B (c) Class C (d) Class D

63) A subnet mask in class B has nineteen 1s. How many subnets does it define( )

(a) 128 (b) 8 (c) 32 (d) 64

64) Given the IP address 18.250.31.14 and the subnet mask 255.255.0.0, what is the subnet (network) address? ( )

(a) 18.9.0.14 (b) 18.0.0.14 (c) 18.31.0.14 (d) 18.250.0.0

65) _____ is a client-server program that provides an IP address, subnet mask, IP address of a router, and IP address of a name server to a computer. ( )
(a) NAT (b) DHCP (c) CIDR (d) ISP

66) In _____, each packet of a message need not follow the same path from sender to receiver. ( )
(a) The virtual approach to packet switching
(b) The datagram approach to packet switching
(c) Message switching
(d) None of the above

67) In _____ routing, the mask and destination addresses are both 0.0.0.0 in the routing table. ( )
(a) Default (b) Next-hop
(c) Network-specific (d) Host-specific

68) In which type of switching do all the packets of a message follow the same channels of a path? ( )
(a) Virtual circuit packet switching (b) Message switching
(c) Datagram packet switching (d) None of the above

69) A routing table contains _____. ( )
(a) The destination network ID (b) The hop count to reach the network
(c) The router ID of the next hop (d) All the above

70) An area border router can be connected to _____ ( )
(a) Only another router (b) Only another network
(c) Only another area border router (d) Another router or another network

71) Which type of network using the OSPF protocol can have five routers attached to it? ( )
(a) Transient (b) Stub (c) Point-to-point (d) All the above

72) Which layer produces the OSPF message? ( )
(a) Data link (b) Transport (c) Application (d) Network

73) OSPF is based on _____. ( )
(a) Distance vector routing (b) Path vector routing
(c) Link state routing (d) (A) and (B)

74) _____ is a multicasting application. ( )
(a) Teleconferencing (b) Distance learning
(c) Information dissemination (d) All the above

75) Dijkstra's algorithm is used to _____. ( )

(a) Create LSAs (b) Flood an internet with information

(c) Create a link state database (d) Calculate the routing tables

76) RIP is based on _____. ( )

(a) Link state routing (b) Dijkstra's algorithm

(c) Path vector routing (d) Distance vector routing

77) Dial-up modems are ( )

(a) Synchronous (b) Simplex (c) Asynchronous (d) None

78) Modem pair required for WAN connectivity over leased lines are ( )

(a) Asynchronous V.35 + G.703 (b) Synchronous V.35 + G.703

(c) Synchronous V.35 + V.35 (d) None of the above

79) ADSL modem uses modulation method ( )

(a) QAM + FDM (b) TDM+FSK (c) FDM+FSK (d) All

80) HDSL modem uses line coding technique ( )

(a) HDB3 (b) 2B1Q (c) Manchester (d) AMI

81) DSLAM stands for _____ ( )

(a) Digital Synchronous Line Multiplexer

(b) Digital line access multiplexer

(c) Digital subscriber line access multiplexer

(d) None of the above

82) Media convertor is used when data transmission distance is ( )

(a) Less than 100 mtrs (b) More than 100 mtrs

(c) More than 50 mtrs (d) all

83) In DSLAM splitte, for voice communication _____filter is used ( )

(a) low pass filter (b) high pass filter (c) both (d) none

84) In ADSL modem, for data transmission _____filter is used ( )

(a) low pass filter (b) high pass filter (c) both (d) none

85) Short haul modems are used when distance is upto _____ ( )

(a) 15 kms (b) 20 kms (c) 50 kms (d) 100 kms

86) Asynchronous modems uses _____modulation technique ( )

(a) ASK (b) FSK (c) PSK (d) ALL

87) Dial-up modems are WLAN Provide wireless network communication over short distances using ( )

(a) Radio signal (b) Infrared signal

(c) Ultraviolet signal (d) Both a and b

88) Access point consists of ( )

(a) built-in network adapter (b) antenna

(c) radio transmitter (d) all

89) IEEE standard for WLAN is ( )

(a) 802.11 (b) 802.2 (c) 802.3 (d) 802.10

90) Wireless Application Protocol (WAP) uses wireless communication technologies such as ( )

(a) GSM (b) 4G (c) GPRS (d) ALL

91) Access Protocol for WLAN is ( )

(a) CSMA (b) CSMA / CD

(c) CSMA / CA (d) None

92) How many character length is SSID name ( )

(a) 8 (b) 16 (c) 32 (d) 64

93) BSSID of access point is ( )

(a) 48 bit IP address (b) 32 bit MAC address

(c) 48 bit MAC address (d) None of the above

94) RF band used for WLAN is ( )

(a) 0.4 GHz (b) 2.4 GHz (c) 1.2 GHz (d) None

95) The bandwidth available in 802.11a WLAN is ( )

(a) 2 Mbps (b) 54 Mbps (c) 11 Mbps (d) 108 Mbps

96) The IEEE 802.11d standare WLAN is also called as ( )

(a) Mobile wimax (b) Fixed wimax (c) bluetooth (d) none

97) WPA (wi-fi protected access) uses how many bit encryption key ( )

(a) 16 bit (b) 32 bit (c) 64 bit (d) 128 bit

98) WPA uses a message integrity check algorithm called ( )

(a) Michael (b) John (c) Antony (d) Albert

99) Wireless access points broadcast themselves using ( )

(a) SSID (b) MAC address (c) IP address (d) all

100) Default IP address of access point is ( )

(a) 192.168.1.1 (b) 10.195.2.20 (c) 192.168.0.1 (d) both a & c

101) Ethernet provides access to the network using ( )

a) CSMA/CA b) CSMA c) OFDM d) CSMA/CD

102) Ethernet networks typically will not be found in _____ Topology ( )

a) Ring b) Mesh c) Star d) Bus

103) 100 BASE-T type of Ethernet uses _____ cable ( )

a) Coaxial b) Optical Fiber c) Switch board d) UTP/STP

104) The maximum distance supported by UTP/STP cable ( )

a) 100 Meters b) 200 Meters c) 500 Meters d) 2 KM

105) Ethernet Technology usually suffers from ( )

a) Noise b) Attenuation c) High resistance d) Broadcast/Collisions

106) 10 Base-T uses _____ cable ( )

a) Coaxial b) Optical Fiber c) FS d) UTP/STP

107) In 10 BASE-T the maximum cable run ( )

a) 100 Meter b) 185 Meter c) 500 Meter d) 5 KM

108) In 1000 BASE-SX the maximum cable run ( )

a) 100 Meter b) 185 Meter c) 500 Meter d) 2 KM

109) 10 Gigabit Ethernettype of Ethernet supplies ___ bits per second ( )

a) 1000 Billion b) 100 billion c) 10 billion d) 1 Billion

110) The length of the MAC address ( )

a) 32 bit b) 128 bit c) 16 bit d) 48 bit

111) Traditional Network Switch operate at ( )

a) Layer-2 b) Layer-3 c) Layer-1 d) Layer-4

112) The Terminal Server allows ( )

a) RS232 to 10/100 Base-T Ethernet b) RS232 to RS232

c) Ethernet to Ethernet d) RS232 to Parallel

113) NeTS (Network Terminal Server) is a ( )

a) Switch b) Router c) Terminal Server d) All

114) The hardware (or) MAC address is burnt on which part of NIC ( )

a) RAM b) ROM c) Flash d) NVRAM

115) A switch controls flow of data using _____ address ( )

a) IP b) Port c) MAC d) None

116) Routers are used to connect ( )

a) Similar LANs b) Dissimilar LANs c) Different networks d) None

117) 100 BASE-TX type of Fast Ethernet runs over ( )

a) UTP/STP b) Coaxial cable c) Fiber optical cable d) Radio waves

118) In coaxial Ethernets, the transmission is ( )

a) Full duplex b) Half duplex c) Simplex d) All

119) The standard complaint & cost effective solution for connecting dumb terminal and thin clients at remote site for PRS – UTS integration is ( )

a) Statmux b) Terminal Server c) DCM d) NeTS

120) Frequency Band of VSAT ( )

a) C–Band b) KU–Band c) Extended C–Band d) All

121) Wired Ethernet standardized under IEEE ( )

a) 802.11 b) 802.16 c) 802.3 d) 802.4

122) 1000BASE-T (Gigabit Ethernet) standardized under IEEE ( )

a) 802.3u b) 802.3ab c) 802.3z d) None

123) All 4 pairs are used in Ethernet transmission ( )

a) 10 Mbps b) >1000Mbps c) 100 Mbps d) All

124) CRC checks are done at Layer ( )

a) Layer-2 b) Layer-3 c) Layer-1 d) Layer-4

125) Collisions are totally controlled in a LAN using device ( )

a) HUB b) SWITCH c) ROUTER d) FIREWALL

126) The difference between traditional router and L-3 switch ( )

a) Router has all Ethernet ports only b) L-3 switch has all Ethernet ports only

c) Functional difference d) None

127) VSAT Topology ( )

a) Star b) Mesh c) Ring d) Star and Mesh

128) Railnet is a ( )

a) Extranet b) Internet c) Intranet d) Piconet

129) IP Addressing scheme for Railnet is ( )

a) Public b) Private c) Automatic private d) None

130) IP Address is used in Railnet ( )

a) 10 series b) 192 series c) 172 series d) 1 series

131) IP nos. allotted to Web server on Railnet as a uniform measure are ( )

a) 192.X.2.19 b) 10.x.x.19 c) 10.x.2.19 d) 172.168.x.19

132) IP nos. allotted to Router on Railnet as a uniform measure are ( )

a) 192.X.2.1 b) 10.x.x.1 c) 10.x.2.1 d) 172.16.x.1

133) Subnet mask used for Railnet is ( )

a) 255.0.0.0 b) 255.255.0.0 c) 255.255.255.0 d) 255.255.255.128

134) The Railnet domain is ( )

a) railnet.com b) railnet.in c) railnet.gov.in d) railnet.org

135) Internet gateways of Railnet ( )

a) Delhi/Mumbai b) Kolkata c) Madras d) All

136) Railnet uses ( )

a) Dedicated leased lines b) Dialup lines

c) BSNL/VSNL isdn lines d) RAILTEL MPLS

137) FOIS stand for ( )

a) FREIGHT OPERATIONS INFORMATION SYSTEM

b) FLIGHT OPERATIONS INFORMATION SYSTEM

c) FREIGHT OPERATIONS INTERNET SYSTEM

d) None

138) FOIS network is for ( )

a) Rack management system b) Terminal management system

c) RR generation d) All

139) Architecture of FOIS network is based on ( )

a) Star topology b) Mesh topology c) Mixed (Star + Mesh) d) None

140) Applications on FOIS network on ( )

a) Master – Slave mode b) Main frame mode

c) Client – Server mode d) All

141) Back bone connectivity of FOIS network is on ( )

a) VSAT links b) 64 Kbps data lines c) 2 Mbps data lines d) All

142) Application Servers of FOIS are located at ( )

a) Divisional Hq b) Zonal Hq c) Rly Board d) CRIS / NDLS

143) The additional services provided through PRS network are ( )

a) IVRS b) POET c) Rapid display d) All

144) The PRS network is operated through nos. of regional centers. ( )

a) 4 b) 5 c) 3 d) 1

145) The main objective of PRS in Indian Railway is to provide ( )

a) reserved tickets b) un reserved tickets

c) Freight booking d) flight booking

146) CONCERT is developed by ( )

a) Rly Board b) CRIS c) Individual Railways d) IRISET

147) The main objective of UTS in Indian Railway is to provide ( )

a) reserved tickets b) un reserved tickets

c) Freight booking d) flight booking

148) UTS will provide the facility to purchase Unreserved Ticket ( )

a) 4 Months advance b) 3 Months advance

c) 3 days' advance d) 1 day advance

149) The Passengers can cancel their UTS tickets from any station atleast ( )

a) 1 day advance b) 3 days advance

c) Any day d) 3 Months advance

150) On the day of journey, the UTS ticket can be cancelled from station from which the journey was to commence. ( )

a) from any station b) the journey starting station

c) the journey ending station d) Station where ticket purchased

151) The backend architecture of UTS is ( )

a) 3 tiered b) 4 tiered c) 2 tiered d) 1 tiered

152) UTS can provide computerized unreserved tickets through ( )

a) hand held terminals b) smart card

c) automatic vending machines d) All

153) Application is dividing into modules ( )

a) ticketing subsystem b) fare c) UDM/TDM d) All

154) UTS back end developed using ( )

a) Sybase b) C++ c) UNIX d) All

155) The Dynamic protocol used for unification of PRS & UTS is ( )

a) RIP b) OSPF c) EIGRP d) None

156) The round trip time for smooth working between client terminal and server is ( )

a) 20 - 40m sec b) 60 - 80 m sec c) 00 - 110 m sec d) 130 - 150 m sec

157) Tier 2 location in an area shall be limited to _____ % of total area ( )

a) 4 – 5 % b) 100 % c) 50 % d) 90 %

158) Number of locations per area shall not exceed ( )

a) 30 b) 50 c) 70 d) 60

159) Topology used for PRS & UTS unification is ( )

a) Inverted Tree b) Partial Mesh c) Mesh d) Combination of a & b

160) UTS means ( )

a) Unit Ticketing system b) Unique Ticketing system

c) Unified Ticketing system d) Unreserved Ticketing system

A N S W E R K E Y

1	2	3	4	5	6	7	8	9	10
b	a	b	a	c	b	b	d	c	b
11	12	13	14	15	16	17	18	19	20
a	d	a	b	b	a	b	a	c	b
21	22	23	24	25	26	27	28	29	30
c	b	a	d	c	a	b	c	b	c
31	32	33	34	35	36	37	38	39	40
d	d	a	c	b	d	d	d	c	a
41	42	43	44	45	46	47	48	49	50
c	c	b	c	c	b	c	a	d	b
51	52	53	54	55	56	57	58	59	60
a	b	c	a	d	a	b	c	b	d
61	62	63	64	65	66	67	68	69	70
d	b	b	d	b	b	a	a	d	d
71	72	73	74	75	76	77	78	79	80
a	d	c	d	d	d	c	b	a	d
81	82	83	84	85	86	87	88	89	90
c	b	a	b	a	b	d	d	a	d
91	92	93	94	95	96	97	98	99	100
c	c	c	b	b	b	d	a	a	d
101	102	103	104	105	106	107	108	109	110
d	d	d	a	b	d	a	c	c	d
111	112	113	114	115	116	117	118	119	120
a	a	d	b	b	c	a	b	c	d
121	122	123	124	125	126	127	128	129	130
c	b	b	d	b	b	b	c	b	a
131	132	133	134	135	136	137	138	139	140
c	c	c	c	d	d	a	d	c	c
141	142	143	144	145	146	147	148	149	150
d	d	d	a	a	b	b	c	a	b
151	152	153	154	155	156	157	158	159	160
a	d	c	a	b	d	a	c	c	d

ST-49 : TRAIN TRAFFIC CONTROL

1) In RE area Emergency Control HQ equipment is provided with _____. ( )
   a) Section Controller b) Deputy Chief Controller
   c) Traction Power Controller d) Traction Loco Controller

2) Remote control works on _____ principle. ( )
   a) WPA b) SACFA c) PTCC d) DTMF

3) Role of S&T in Control working is to _____. ( )
   a) To provide communication b) To provide efficient train control
   c) To provide cooperation between departments d) All

4) The function of proper utilization of rolling stock comes under _____ control. ( )
   a) TPC b) TLC c) RC d) All

5) Efficient utilization of Engine power falls under _____ control. ( )
   a) TLC b) Dy. CTO c) TPC d) All

6) Power Controller in electrified sections is called as _____Controller. ( )
   a) Section b) TLC c) TPC d) All

7) Trains movements information of a particular day can be had from _____ ( )
   a) Test room b) Control Chart c) Reservation chart d) All

8) Railway control communication circuits are of _____ type circuits. ( )
   a) Point to point b) Party to line c) Omnibus d) All

9) Type of signaling system suitable for control circuits is _____. ( )
   a) E & M b) RD c) Loop d) DTMF

10) Emergency control sockets are provided on rail posts at ___ km intervals. ( )
   a) 1 b) 2 c) 3 d) 4

11) Name any one control circuit used only in RE sections_____ control. ( )
   a) Section b) Emergency c) Traction Power d) Deputy

12) No. of tones used in DTMF system. _____. ( )
   a) 4 b) 8 c) 12 d) 16

13) Maximum no. of way station codes available in DTMF system. ( )
   a) 97 b) 98 c) 99 d) 100

14) Presently, there are_____ control communication systems working on UG cable media ( )
   a) Equalizer type b) Conventional type c) CCEO d) All

15) _____ of quad cable is eliminated in Equalizer amplifier system. ( )
   a) Loading b) Balancing c) Both a & b d) None

16) _____ is an additional facility in Equalizer amplifier system. ( )
   a) Remote Monitoring b) 8 way Intercom
   c) Automatic by-passing d) All

17) The dual power supply unit in Equalizer Amplifier system is used for _____. ( )
a) Working of the equipment b) Charging the batteries
c) Ringing of way station telephone d) None

18) SOS code is sent by a _____ to test room equipment in case of fault. ( )
a) Test room equipment b) Controller's equipment
c) Way station equipment d) All

19) In addition to speech unit a DTMF _____ is also needed at control office. ( )
a) Decoder b) Encoder c) Multiplexer d) All

20) In addition to Control telephone a DTMF___ is also needed at way stations. ( )
a) Decoder b) Encoder c) Multiplexer d) All

21) A speech conversion unit is used for _____ ( )
a) Level matching b) Impedance matching
c) 4 wire to 2 wire conversion d) All

22) DTMF signal normal output level in Control office equipment is _____. ( )
a) 0 dBm b) 0 to 20 dBm c) 20 to 0 dBm d) 0 to -7 dBm

23)Equipment used in Railtel's OFC control communication system are _____ in CCEO system. ( )
a) STM 1 b) PD Mux c) Both a & b d)

24) LTE can use _____ no. of 2-wire telephones. ( )
a) 40 b) 80 c) 99 d) 20

25) Maximum ____ no. of control telephones can be connected to one MTWE. ( )
a) 2 b) 5 c) 6 d) 8

26) Operating voltage required for CCEO system is _____. ( )
a) 12V b) 24V c) 36V d) 48V

27) Dialling facility is not available in telephones connected to _____ equipment of CCEO. ( )
a) CRE b) TRE c) LTE d) MTWE

28) Telephones having dialling facility are known as _____ telephones ( )
a) Control b) Magneto c) Auto d) TDCT

29) 2-wire telephone lines connected to LTE can be extended up to a distance of _____. ( )
a) 1 Km b) 2 Km c) 4 Km d) 8 Km

30) 2-wire telephone lines connected to MTWE can be extended up to a distance of _____. ( )
a) 1 Km b) 2 Km c) 4 Km d) 8 Km

31) TWA is used where _____. ( )
a) More than 4 control telephones are to be provided b) RPE is provided
c) Both a & b d) None

32) Radio patching in CCEO system can be done remotely from _____. ( )
a) TRE b) CRE c) LTE d) TWA

33) Input and output impedance of equalizer type VF repeater is _____ Ohms ( )
a) 600 b) 470 c) 1120 d) 150

34) Main advantages of Equalizer Amplifier system are _____( )
a) Automatic bypassing
b) Reversal of amplifier direction while patching is not required
c) Loading and condenser joints in cable are eliminated
d) All

35) 4-way amplifier is available in _____ system. ( )
a) Conventional repeaters b) Equalizer type repeaters
c) CCEO d) Overhead line

36) Mention an extra facility available in Equalizer amplifier system. _____ ( )
a) Remote monitoring b) In built Oscillator
c) 8 way intercom d) All

37) Maximum Tx & Rx amplifier gain that can be set in Equalizer amplifier is __. ( )
a) 12 dBm b) 24 dBm c) 5 dBm d) 20 dBm

38) Minimum gain selectable for Equalizer amplifier is _____. ( )
a) 1 dBm b) 2 dB c) 4 dBm d) 8 dBm

39) Interconnection between section control and Dy. Control is called _____ ( )
a) Transposition b) Patching c) Crossing d) None

40) Separate equipment for radio patching is not needed in _____ system. ( )
a) Impulse system b) DTMF c) Both a & b d) None

41) The Radio patch connection is taken from Buffer ____ in Indisco equipment. ( )
a) 2 b) 1 c) Both a & b d) None

42) There is no _____ facility in a Control Telephones provided at way stations. ( )
a) Patching b) Speech c) Dialling d) None

43) A universal control telephone has a _____ in addition to control phone. ( )
a) DTMF Encoder b) DTMF Decoder c) Both a & b d) None

44) A portable EC telephone is used by _____ ( )
a) Guard b) Loco Pilot c) Both a & b d) None

45) A 2-wire 12-way telephone consists of one master and _____ slave phones. ( )
a) 5 b) 10 c) 12 d) 15

46) Electronic LC gate phone has one master and _____ slave phones. ( )
a) 2 b) 4 c) 6 d) 8

47) Master phone of Electronic LC gate system operates on _____ DC supply. ( )
a) 3 V b) 12V c) 24V d) 48V

48) IWCCE can replace all _____ telephones used at a way station. ( )
a) Control b) Auto c) LC gate d) All

49) _____ number of control circuits can be connected to IWCCE. ( )
a) 2 b) 4 c) 6 d) 8

50) _____ number of control telephones can be connected to IWCCE. ( )
a) 6 b) 24 c) 30 d) 12

51) In Indian Railway, Voice data logger is provided in _____. ( )
a) Control Office b) Test room c) Way stations d) All

52) Minimum no. of speech channels recorded by one voice logger unit is _____( )
a) 2 b) 3 c) 4 d) 6

53) SCADA system is operating through _____ control circuit. ( )
a) Section b) Traction Power c) Traction Loco d) Remote

54) Auto dialing system is used in emergencies for providing _____ Phone facility at track side. ( )
a) Control b) Auto c) BSNL d) All

55) _____ sound is the result of an earth fault on overhead circuits. ( )
a) Whistling b) Hauling c) Crackling d) Noise

56) On UG cable circuit transmission loss test periodicity is _____. ( )
a) Weekly b) Monthly c) Bi Monthly d) Half yearly

57) Value of Psophometric noise level should be below _____ ( )
a) 5mV b) 10mV c) 2mV d) 8mV

58) If there is no Trans from controller one of the likely cause can be _____. ( )
a) Amplifier failure b) Power supply failure
c) Input from Mic not available d) Any one of the above

59) If there no ringing at a way station one of the likely cause can be _____. ( )
a) Faulty DTMF decoder b) Wrong code setting
c) Rx amplifier failure d) Any one of the above

60) _____ can result in both way communication loss with the controller. ( )
a) Equipment failure b) DC power supply failure
c) Cable failure d) Any one of the above

61) There is no communication beyond an intermediate VF repeater. The cause may be _____. ( )
a) Repeater amplifier failure b) Repeater power supply failure
c) Cable failure d) Any one of the above

62) Computer connectivity to the Voice logger is through ____ port. ( )
a) Ethernet b) serial c) USB d) Any one

63) The DC power supply required for the operation of Voice logger is _____. ( )
a) 12V b) 24V c) 36V d) 48V

64) POH (Phone off hook) mode is used for recording voice over telephone and VOX mode is used for recording voice over control circuits. ( )
a) POH & VOX b) POH & NON-VOX
c) ON HOOK & VOX d) ON HOOK & NON-VOX

65) The Voice logger used in control communication has a built in hard disc of _____ capacity. ( )
a) 2 GB b) 16 GB c) 40 GB d) 80 GB

66) Recordings are saved automatically in HDD of logger as well as in the HDD of ___ simultaneously. ( )
a) PC b) Laptop c) Cell Phone d) All

67) __ connectors are used to connect control voice channels to the Voice logger( )
a) RJ-11 b) RJ-45 c) Both a & b d) None

68) The Train management system provides 'On Line' information of train movements to the various railway agencies. ( )
a) On Line b) Off Line c) Both a & b d) None

69) ____ have been installed in TMS control room for viewing of live train movements, track lay out, status of points, signal aspects and status of level crossing gates( )
a) Display Boards b) NMS c) Control Chart d) None

70) _____ Video display unit enables the master in optimum planning of train movements in his jurisdiction. ( )
a) Online b) Off line c) Both a & b d) None

71) Train indication boards, Video display units and Audio announcement systems work on _____ basis to avoid wrong display and announcements. ( )
a) Off line b) On line c) Real time d) None

72) The Tx and Rx frequency used for Mobile train communication between trains and Control centre is _____. ( )
a) 2.4 GHz b) 165.5 MHz c) 338-355 MHz d) 1 KHz

73) Mobile communication in _____ guides the driving crew as well as to inform the travelling public during traffic dislocations. ( )
a) TMS b) NMS c) PRS d) None

74) Significant impedance mismatch _____ voice quality due to the connecting of way station equipment's to the same point. ( )
a) degrades b) upgrades c) no change d) none

75) Gateways shall be used for connecting TCCS with and ( )
a) Railway Telephone exchanges b) emergency communication circuit
c) Analog control telephones d) All

76) In VOIP based TCCS, ____ Phone shall be provided to way side station masters and other users of control circuits. ( )

a) IP b) Analog c) Digital d) none

77) Remote configuration and real time performance monitoring of TCCS shall be done by centralized _____. ( )

a) Control b) NMS c) Server d) None

78) The communication server shall deny any intruder to access TCCS using __.( )

a) False Identity b) Wrong password c) Wrong User name d) None

79) Since ____ is internationally accepted technology, future improvement in the system shall also benefit the TCCS. ( )

a) VOIP b) IVRS c) NMS d) None

80) Min. dB level required for DTMF decoder for ringing is ( )

a) -20 dB b) -10 dB c) + 20 dB d) + 10 dB

ANSWERS KEY

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

ST-50 : OPTICAL FIBER COMMUNICATION, SDH & EQUIPMENT

1) Light is composed of elementary particle called ( )
   a) Electron b) Proton c) photon d) neutron

2) Primary properties of light are ( )
   a) Wavelength b) Polarization c) frequency d) all

3) Speed of light in free space defined by Einstein equation is ( )
   a) $E = mc^2$ b) $E = M/C^2$ c) $M = EC^2$ d) $M = E/C^2$

4) Speed of light in vaccum divided by speed of light in a material is called ( )
   a) Refractive index b) Polarization index c) reflective index d) none

5) Optical fibers accept _____ signals only ( )
   a) Bipolar b) unipolar c) any polarity d) None

6) The main drawback of optical fiber as a communication medium is that _ ( )
   a) tapping is difficult b) low attenuation c) high cost d) High EMI/EMC

7) Transmission loss of optical fiber at a wavelength of 1550 nm is ___ dB/Km ( )
   a) 2.5 b) 0.25 c) 0.025 d) 25

8) Transmission loss of optical fiber at a wavelength of 1310 nm is ___ dB/Km. ( )
   a) 0.35 b) 3.5 c) 2.5 d) 0.25

9) In step index fiber _____ ( )
   a) refractive index remains constant throughout the core
   b) decreases to some value at the core cladding interface
   c) remains constant throughout the cladding
   d) both a & b

10) In _____ the refractive index of the core varies the parabolic rule upto the core cladding interface and then remains constant throughout the cladding ( )
   a) Graded index fiber b) Step index fiber c) NDSF d) NZDSF

11) The number of modes that can propagate in fiber is a function of numerical aperture, Core diameter and _____ ( )
   a) Wavelength of light b) Refractive index c) Velocity of light d) None

12) Mode-Field Diameter (MFD) defines the _____ ( )
   a) diameter of the core b) size of the power distribution
   c) diameter of the cladding d) size of the buffer thickness

13) Refractive index of glass is ( )
   a) 1.5 b) 1.33 c) 1.0 d) 3.5

14) Mode is an available distribution of electromagnetic field in _____ to the direction of light propagation ( )
   a) a plane transverse b) a plane longitudinal
   c) Both transverse and longitudinal planes d) none of a, b, & c

15) A mode for which the field components in the direction of propagation are small compared to components perpendicular to that direction is called ____ ( )
a) Circularly polarized mode b) linearly polarized mode
c) TEM mode d) TM mode

16) Multimode fiber is best designed for _____ transmission distances ( )
a) Longer b) shorter c) medium d) very Long

17) The disparity between the arrival times of different light rays at the output of a fiber while traveling through the fiber is known as _____ ( )
a) Dispersion b) Attenuation c) Scattering d) Mixing

18) In graded index fiber dispersion is reduced due to variation of refractive index in the _____ of the fiber ( )
a) Cladding b) Core c) Buffer d) Tube

19) Cut-off wavelength of a SM fiber is greater than _____ mm. ( )
a) 1310 b) 1260 c) 1450 d) 1550

20) Mode field diameter of SM fibre is _____ micrometers. ( )
a) 9.3 b) 12 c) 125 d) 6

21) The Numerical aperture is _____. ( )
a) Light gathering capacity b) Light emitting capacity
c) Light rejecting capacity d) Light amplification capacity

22) The numerical aperture of a SM fiber is about ( )
a) 0.10 to 0.17 b) 1.1 to 2.1 c) 2.0 to 3.1 d) 0.95 to 1.2

23) Scattering and absorption of light signal cause _____. ( )
a) Total internal reflection b) attenuation
c) gain to the signal d) Dispersion

24) Impurities and irregularities in the physical construction of optical fiber causes( )
a) Scattering b) absorption c) total internal reflection d) Four wave mixing

25) Rayleigh's scattering is due to _____ present in the silica matrix. ( )
a) Water vapors b) metal ions c) OH^- ions d) H+ ions

26) Scattering limits the use of wavelengths below ___ mm in optical fiber. ( )
a) 1310 b) 1550 c) 800 d) 650

27) The hydroxyl ions and impurities present in the silica are the reasons for _____ of light signals. ( )
a) Bending b) scattering c) absorption d) Dispersion

28) An attenuation of 3dB corresponds to __ % reduction in original power. ( )
a) 10 b) 30 c) 50 d) 3

29) Inter modal dispersion present in ( )
a) only in SM fibers b) only in MM fibers
c) Both SM & MM fibers d) cannot be said

30) Polarization mode dispersion (PMD) is significant data rates ___ ( )
a) above 1Gbps b) below 1Gbps
c) above 2Mbps but less than 1Gbps d) below 30Mbps

31) ITU-T recommendation G.652 describes the properties of ____ ( )
a) dispersion-shifted fiber b) Non dispersion-shifted fiber
c) Non-zero dispersion-shifted fiber d) None of the above a,b & c

32) ITU-T recommendation G.653 describes the properties of ____ ( )
a) dispersion-shifted fiber b) Non dispersion-shifted fiber
c) Non-zero dispersion-shifted fiber d) None of the above a,b & c

33) ITU-T recommendation G.655 describes the properties of _____ ( )
a) dispersion-shifted fiber b) Non dispersion-shifted fiber
c) Non-zero dispersion-shifted fiber d) None of the above a,b & c

34) _____ fibers have high dispersion at 1550 nm. ( )
a) G.652 b) G653 c) G655 d) None

35) __ fiber the zero-dispersion point is shifted to the wavelength region 1550nm( )
a) G.652 b) G653 c) G655 d) None

36) The _____ fiber is very much suitable for single wavelength 1550 nm but is unsuitable for DWDM systems. ( )
a) DSF Dispersion-shifted fiber G.653
b) Non dispersion-shifted fiber (NDSF) G.652
c) Non zero-dispersion-shifted fibers (NZ-DSF) G.655
d) All of the above a, b & c

37) LSZH cables are preferred for indoor applications because ( )
a) Less toxic and slower to ignite b) They are halogen free
c) Both a & b d) None of a & b

38) The Tensile strength is of the order of _____ ( )
a) 4400 to 6000 kg per sq.cm b) 44000 to 60000 kg per sq.cm
c) 440000 to 600000 kg per sq.cm d) 440000 to 600000 kg per sq.mm

39) The normal optic fiber cable drum length is _____. ( )
a) 2 Km b) 3 Km c) 1 Km d) 4 Km

40) 12-fiber armoured optic fiber cable can be used for _____ laying. ( )
a) Underground as well as for aerial b) Only Underground
c) Only aerial d) None

41) The 24-fiber armoured optic fiber cable contains _____. ( )
a) 2 loose tubes b) 3 loose tubes
c) 24 single loose tubes d) 6 loose tubes

42) Cable markers are normally provided at every __ meters on the cable route. ( )
a) 5 b) 10 c) 150 d) 50

43) After laying the optic fiber cable at least _____ mm from the surface of the cable should be covered with riddle earth. ( )
a) 1200 b) 12000 c) 120 d) 1120

44) Pulling tension/force on the cable during OFC laying should not exceed ( )
a) 2670N b) 267N c) 267Kg d) 2670Kg

45) During OFC cable laying maximum speed of cable laying must be ( )
a) 100mtrs/minute b) 10mtrs/minute
c) 20mtrs/minute d) 200 mtrs/minute

46) In order prevent theft of OFC steel troughs with optic fiber cable should be filled up by _____ ( )
a) Petroleum Jelly b) cadmium compound
c) bitumen compound d) graphite grease

47) The bitumen compound should be filled up to a height of approximate _ mm.( )
a) 20 b) 30 c) 60 d) 10

48) Brick protection to be provided in OFC trench at ( )
a) Culverts b) Track crossings c) Station/yards d) Bridges

49) The loss offered by a mechanical splicing of optic fibers is less than ___ dB. ( )
a) 0005 b) 0.05 c) 0.5 d) 1.5

50) The loss offered by a fusion splice of optic fibers shall not exceed __ ( )
a) 0.005 b) 0.05 c) 0.2 d) 1.5

51) During installation a minimum of _____ meter of optic fiber cable on each end is coiled in the jointing pit. ( )
a) 10 b) 15 c) 5 d) 20

52) Ferules of optic fiber connectors are made of _____ materials. ( )
a) metal or ceramic or plastic b) only metal
c) only ceramic d) only plastic

53) Biconic connectors are generally used in _____ applications in optic fiber communication. ( )
a) LAN b) WAN c) SAN d) MAN

54) Cleaving of the fibre is performed to obtain ___ on end face of the fiber ( )
a) 90^o b) 60^o c) 40^o d) 30^o

55) Generally Light sources are provided to emit light at ____ wave lengths ( )
a) 850, 1200, 1460nm b) 850, 1310, 1550nm
c) 850, 1410, 1350nm d) 800, 1200, 1460nm

56) Generally Light sources are provided to emit light at ____ power levels ( )
a) 0dBM or -3dBm b) 0dBM or -6dBm
c) 0dBM or -7dBm d) 3dBM or -7dBm

57) LSPM(Light source Power meter) method is superior to OTDR for Measuring ( )
a) Power and distance b) Power only
c) Distance only d) Optical return Loss only

58) The Dead zone in OTDR is caused by_____ ( )
a) Fresnel reflection and the amplifier recovery time b) Fresnel reflection only
c) Amplifier recovery time d) RBS

59) On OTDR trace horizontal axis represents_____ ( )
a) Launch Power b) Distance c) Return Power d) Time

60) On OTDR trace Vertical axis represents_____ ( )
a) Launch Power b) Distance c) Return Power d) Time

61) Excessive pulse width in OTDR causes_____ ( )
a) Decrease in Dead zone length b) Increase in Dead zone length
c) Dead zone length is un effected d) Ghost refection occurs

62) Reduction in acquisition time in OTDR causes _____ ( )
a) Smooth trace is obtained b) Noisy trace is obtained
c) Dead zone length is extended d) Ghost refection occurs

63) For best results of measurements with OTDR _____ ( )
a) Knowledge of Cable plant is required b) LSA averaging method to be used
c) Auto- mode of settings should not be used d) All of the above a, b & c

64) OTDR trace to be obtained and analysed in OFC installation. Identify the correct statement ( )
a) Before laying at 1310nm, and after laying at 1550nm
b) Before laying at 1550nm, and after laying at 1310nm
c) At both wave lengths before as well as after laying
d) At both wave lengths Before laying only

65) Light emission can occur through ( )
a) Spontaneous emission b) Stimulated emission
c) Both of a & b d) None of a & b

66) The main Requirements of Optical sources include ( )
a) Spectral width & Directivity b) Output Power & Output wave length
c) Linearity and Reliability d) All of the above a, b, & c

67) The quantum efficiency of an optical source is defined as ( )
a) It is the ratio of no. of photons generated & no of carriers crossing the junction
b) It is the ratio of no. of carriers crossing the junction & no. of photons generated
c) It is the ratio of no. of carriers generated & no. of photons crossing the junction
d) It is the product of no. of photon generated & no. of carriers crossing the junction

68) Identify the correct statement ( )
a) The external quantum efficiency is always < than the internal quantum efficiency
b) The internal quantum efficiency always < than the external quantum efficiency
c) Cannot be concluded & depends on other factors
d) None of the above a, b & c

69) Optical sources include ( )
a) LEDs only b) LASER only c) LASERs, LEDs and APDs d) Both of a & b

70) Principle involved in optical detector operation ( )
a) Seabeck effect b) Photo electric effect
c) Faraday effect d) Scotky effect

71) Quantum efficiency w.r.t Optical detectors is defined as ( )
a) fraction of electrons which contribute to the external photocurrent
b) fraction of photons which contribute to the external photocurrent
c) It is the ratio of electron generation rate and photon incidence rate
d) Both of b & c

72) Dark current (Id) of an optical detector is defined as _____ ( )
a) Dark current is the current generated in a photo detector in the absence of any optical signal.
b) It is the ratio of electron generation rate and photon incidence rate
c) It is the ratio of photon generation rate and electron incidence rate
d) Both of b & c

73) Photo detectors include ( )
a) PIN diode and APDs b) APDss and MSMs
c) APDs, PIN diodes, & MSMs d) None of the above a,b & c

74) Responsivity of a Photo detector defined as ( )
a) A measure of how much output light is obtained for each watt of input light
b) A measure of how much output current is obtained for each Amp of input current
c) A measure of how much output current is obtained for each watt of input light
d) A measure of how much output light is obtained for each amp of input current

75) The bandwidth is limited in optical transmitter with internal modulator due to relaxation frequency of _____. ( )
a) Laser diode b) Photo detector c) both a & b d) none

76) The feedback loop using photo diode in optical transmitter using external modulator provides a very stable level of ____ radiated by the laser diode. ( )
a) Power b) Voltage c) Current d) Resistance

77) The optical amplifiers employed in optic fiber communication have made it possible to amplify all the ____ at once without optical-electrical-optical conversion. ( )
a) Wavelength b) Amplitude c) Time period d) None

78) The ____ employed in optical fiber links are specific to bit rate and modulation format. ( )
a) Amplifiers b) Regenerators c) optical mux d) none

79) The optical ____ employed in optic fiber communication are independent of bit rate and modulation format. ( )
a) amplifiers b) Regenerators c) optical mux d) none

80) The system up gradation in optical fiber links does not require change in ___.( )
a) Amplifiers b) regenerators c) optical mux d) none

81) System up gradation requires replacement of regenerators in optical fiber links( )
a) regenerators b) Amplifiers c) optical mux d) none

82) EDFAs are typically capable of providing a gain of about ___ dB to the input optical signals. ( )
a) 30 dB b) 20 dB c) 10 dB d) 40 dB

83) Link power budget analysis is to be performed to ensure_____ ( )
a) Sufficient system operation margin b) Link operational feasibility
c) Minimum power available at the receiver d) All of the above a,b & c

84) The reasons for keeping system margin is/are_____ ( )
a) Future cable cuts and subsequent losses b) Aging effects
c) Environmental degradations d) All of the above a,b & c

85) Basic scenarios to be considered in PBA (Power Budget Analysis) ( )
a) the receiver and Optic fiber system is decided, then what transmitter minimum power would be needed?
b) Maximum receiver power under minimum loss conditions
c) In existing system, how much we could lengthen the fiber without changing the transmitter, receiver and still meet the minimum power requirement of receiver
d) All of the above a,b & c

86) An optical Tx is emitting power at 0dBm which is equivalent to_____ ( )
a) 1mWatt b) 1 micro Watt c) 1Watt d) 0 Watt

87) A Loss of 10 dB implies _____ ( )
a) 10% of power has been lost b) 90% of power has been lost
c) 10 watts power lost d) None of the above a, b & c

88) A Loss of 3 dB implies _____ ( )
a) 50% of power has been lost b) 90% of power has been lost
c) 10% watts power lost d) 3% of power has been lost

89) Total rise time of the system is defined as _____ ( )
a) $(tr)SYSTEM = [\{tr (Tx)\}^2 + \{tr (fiber)\}^2 + \{tr (Rx)\}^2]^{0.5}$
b) $(tr)SYSTEM = [\{tr (Tx)\}^{0.5} + \{tr (fiber)\}^{0.5} + \{tr (Rx)\}^{0.5}]^2$
c) $(tr)SYSTEM = [\{tr (Tx)\}^{1.2} + \{tr (fiber)\}^{1.2} + \{tr (Rx)\}^{1.2}]^{0.5}$
d) $(tr)SYSTEM = [\{tr (Tx)\}^2 + \{tr (fiber)\}^2 + \{tr (Rx)\}^2]^2$

90) In Rise time budget analysis factors to be considered are ( )
a) Rise time of the fiber only b) Rise time of the source only
c) Rise time of the receiver only d) All of the above a, b, & c

91) In rise time budget analysis Rise time of Source and detector can be found using _____ ( )
a) Suitable measurement technique b) DATA Sheet of OEM
c) Can be assumed reasonably d) All of the above a, b, & c

92) In Rise time budget analysis Rise time of fiber can be found using _____ ( )
a) Suitable measurement technique b) DATA Sheet of OEM
c) Can be assumed reasonably d) From dispersion coefficient & bandwidth

93) OTDR is used for _____ ( )
a) Attenuation loss measurement b) Fiber break identification
c) Splice loss d) All

94) Wavelength used in single mode fiber for long haul communication is___ ( )
a) 850 nm b) 1310 nm c) 1550 nm d) Both c & d

95) Optical power meter is used to measure _____ ( )
a) Power loss b) Current loss c) Voltage loss d) None

96) Permissible splice loss in arc fusion splicing is ___ ( )
a) < 0.1 dB b) < 0.5 dB c) < 1.0 dB d) < 2.0 dB

97) Type of OFC cable used in Indian railways is ____ ( )
a) 12 F b) 24 F c) 48 F d) 96 F

98) OFC cable drum size used in Indian railways is _____ ( )
a) 1 KM b) 2 KM c) 3 KM d) 4 KM

99) Refractive index of glass is _____ ( )
a) 1.0 b) 1.5 c) 2.0 d) 2.5

100) Macro bending loss should not be less than ____ diameter of cable ( )
a) 20 D b) 30 D c) 40 D d) 50 D

101) In SDH system the multiplexing is done by _____ process ( )
a) Bit interleaving b) Byte interleaving c) Both a & b d) None

102) A single synchronous multiplexer can performs the function to _____ ( )
a) Add All PDH data rates b) Drop all PDH data rates
c) Add/Drop all PDH data rates d) None

103) Synchronous digital transmission equipments can be inter operable? ( )
a) From different venders b) From same vendors
c) Both a or b d) None

104) The container and path overhead of SDH frame together formed as ____ ( )
a) Virtual container(VC-n) b) Tributary unit (TU)
c) Pointer d) Administrator Unit (AU)

105) The standardized E1 rate of ITUT is mapped into _____ ( )
a) C12 b) C11 c) C3 d) C4

106) J1 byte of POH in STM1 is used for _____ ( )
a) Path trace b) BER c) Management d) EOW

107) In one TUG-3 how many No. of TU-12 will exists? ( )
a) 7 b) 3 c) 21 d) 63

108) The data rate of STM-4 is _____ ( )
a) 622.080 Mbits/s b) 2.488 Mbits/s c) 155.52 bits/s d) 2.048 Mbps

109) The Administrative unit is the combination of _____ ( )
a) Pointer+ POH b) VC-4 + POH c) POH+C-4 d) VC-4+POINTER

110) In an STM-1 frame, the size of payload area will be of ____ bytes ( )
a) 2430 b) 2340 c) 2043 d) 2240

111) An STM -1 frame is arranged as _____ rows and columns ( )
a) 9 X 260 b) 9 X 261 c) 9 X 270 d) 9 X 269

112) Performance analysis and error monitoring will be done by ____ bytes ( )
a) B1, B2, B3 b) A1, A2, A3 c) C1, C2, C3 d) D1,D2,D3

113) When VC-4 is slower than STM-1 payload, the process required is ____ ( )
a) Positive justification b) Negative justification c) Offset d) None

114) _____ bytes are used as Data communication channel for maintenance purpose between multiplexers. ( )
a) K1,K2 b) F1,F2 c) D4-D12 d) A1-A3

115) _____ bytes are used for Automatic Protective Switching (APS) command & remote alarm command ( )
a) K1, K2 b) F1, F2 c) D4-D12 d) A1-A3

116) Section Over Head is the combination of _____ ( )
a) RSOH+MSOH b) RSOH+AU-4 c) MSOH+AU-4 d) None

117) _____ defines the locations of the TU3s with in the VC4 ( )
a) TUG-3 b) TUG-2 c) TU12 d) TU-11

118) A row of VC4 in an STM –1 frame generates-_____ ( )
a) 87 addresses b) 86 addresses c) 85 addresses d) 84 addresses

119) The number of bytes to generate an address in VC4 frames _____ ( )
a) 3 bytes b) 4 bytes c) 2 bytes d) 1 bytes

120) To generate a pointer address for negative justification are _____ ( )
a) H1 & H2 bytes. b) H3 & H4 bytes c) H1 & H3 bytes d) H2 & H4 bytes

121) In positive justification, the AU4 pointer value is _____ ( )
a) Incremented b) Decremented c) Both A or B d) None

122) The V3 byte of TU12 of 500μs is used for _____ ( )
a) Negative justification b) Positive justification c) Both A or B d) None

123) The end nodes of bus topology are called _____ ( )
a) Terminal nodes b) Add /drop nodes c) Both A or B d) None

124) A ring network consists of _____ ( )
a) ADM nodes b) Terminal nodes c) Both A or B d) None

125) In star network if the HUB fails _____ ( )
a) No traffic can flow in the links b) Traffic can flows through the alternative link
c) Both A or B d) None

126) The nodes of meshed network contain _____ ( )
a) Cross-connected equipments b) No need of cross-connected equipment
c) Both A or B d) None

127) If one of the inter node links of a APS network fails _____ ( )
a) The traffic is interrupted b) The traffic is not interrupted
c) Both A or B d) None

128) The multiplexing section of a SDH network is protected by _____ ( )
a) 16 bits of MSOH b) 8 bits of MSOH
c) 32 bits of MSOH d) None

129) In case of 1+1 configuration of a SDH network _____ ( )
a) The stand by route is idle when main is working condition
b) The stand by route and main route are in working condition
c) The stand by route or main route are in working condition
d) None

130) Bi-directional SDH ring supports ( )
a) Only section protection b) Both the path and section
c) Both A & B d) None

131) F – interface on ADM of SDH is a _____ ( )
a) Serial interface b) Parallel interface c) Both A or B d) None

132) QECB port of SDH element controls_____ ( )
a) Power supply module b) ADM module of SDH c) Both A & B d) None

133) The Ethernet port of a network element of SDH is _____ ( )
a) QB3 b) QB2 c) QECC d) None

134) Frequent adjustment of pointer produces_____ ( )
a) Low frequency jitter b) High frequency jitter c) Both A & B d) None

135) The SSU should be provided _____ ( )
a) less than 20 consecutive network elements
b) More than 20 consecutive network elements
c) More than 40 consecutive network elements
d) less than 40 consecutive network elements

136) As per the ITU-T's standard G 803 the number of SSUs _____ ( )
a) Should not be more than 10 in a trail to PRC
b) Should be more than 10 in a trail to PRC
c) Should be more than 20 in a trail to PRC
d) Should not be more than 20 in a trail to PRC

137) To a PRC in a trail- _____ ( )
a) Maximum 60 NEs can be connected b) More than 60 NEs can be connected
c) Maximum 80 NEs can be connected d) More than 80 NEs can be connected

138) In hold over mode the system synchronization of SDH ring can work for ___ ( )
a) 24 hours b) Less than 24 hours c) 12 hours d) Less than 12 hours

139) The T0 clock is kept locked to the selected reference _____ () a) In Locked mode
b) In Holdover mode c) Both A & B d) None

140) T1 clock is a reference clock of _____ ( )
a) STM-N b) Any 2Mbps c) 64 kbps d) None

141) For traffic performance, the maximum slip rate allowed _____ ( )
a) Are 5 slips per day in 24 hours for greater than 98.9%
b) Are 4 slips per day in 24 hours for greater than 98.9%
c) Are 3 slips per day in 24 hours for greater than 98.9%
d) Are 2 slips per day in 24 hours for greater than 98.9%

142) ITUT's recommendation for SDH mux is _____ ( )
a) G.709 b) G.708 c) G.707 d) G.703

143) ITUT's recommendation for SDH optical interfaces is _____ ( )
a) G.957 b) G.958 c) G.952 d) G.951

144) Jitter is the _____ ( )
a) Short-term variation b) Long-term variation c) Both A & B d) None

145) For testing of transport capability tests- _____ ( )
a) The BER and mapping /de-mapping tests are conducted
b) The timing offset and tributary output jitter tests are conducted
c) Both A& B
d) None

146) Clock synchronization test is conducted by _____ ( )
a) Verifying the line frequency b) Pointer activity
c) Sync status byte d) All the above

147) VC-4 is formed by multiplexing ___ TUG-3's ( )
a) 3 b) 4 c) 5 d) 6

148) The input to container C4 is ( )
a) E1 b) E2 c) E3 d) E4

149) VC4 is generated by adding the POH to __ ( )
a) C1 b) C2 c) C3 d) C4

150) E1 traffic is mapped into ___ container ( )
a) C-12 b) C-2 c) C-3 d) C-4

151) V Mux – 30A is equipped with the interfaces for ( )
a) Voice only b) Data only c) Both voice & Data d) None

152) In V mux – 30A Slot 13 is allotted to _____ ( )
a) Auxiliary (AUX) card
b) PCM interface (PCM I/F) card
c) Signalling Multiplexing (SMX) card
d) General maintenance alarm processor (GMAP) card

153) In V mux – 30A Slot 12 is allotted to _____ ( )
a) PCM interface (PCM I/F) card b) Signalling Multiplexing (SMX) card
c) Conference card d) Power Supply card

154) In V mux – 30A Slot 9 is allotted to _____ ( )
a) PCM interface (PCM I/F) card b) Signalling Multiplexing (SMX) card
c) Conference card d) Auxiliary (AUX) card

155) V mux – 30A has _____ numbers of routing tables ( )
a) Two b) Three c) Four d) Six

156) In V mux – 30A, a conference card can provide up to _____ simultaneous four party conferences ( )
a) 12 b) 15 c) 8 d) 10

157) In V mux – 30A, each interface card provides _____ number of channels ( )
a) One b) Two c) Three d) Four

158) In V mux – 30A Frame sync loss is a ____ alarm ( )
a) Trunk alarm b) AIS alarm c) BER alarm d) none

159) In V mux – 30A ___ alarm is a System alarm ( )
a) Local alarm b) Remote alarm c) normal alarm d) none

160) V mux – 30A is a _____ system ( )
a) Microprocessor b) Microcontroller c) Miniprocessor d) None

161) The sub-rack of WEBFIL Mux has altogether _____ slots for housing the various modules ( )
a) 10 b) 12 c) 13 d) 14.

162) In WEBFIL mux, Slot-12 and slot-13 have equal and parallel access to time slots ( )
a) 1 & 16 b) 15 & 16 c) 30 & 31 d) None

163) In WEBFIL mux, the no of cross connect tables to be down loaded to take care of various conditions of the network are ( )
a) 4 b) 2 c) 5 d) 6

164) In WEBFIL mux , Slot 3 is allotted to _____ ( )
a) Power Supply card b) Network Interface Module
c) Tributary card d) Voice module

165) In WEBFIL mux , Slot 10 is allotted to _____ ( )
a) Power supply card b) Voice Module
c) High Speed Data Module d) Both b & c

166) In WEBFIL mux, the NMS can access the equipment through ( )
a) 9pin D- shell connector only
b) Both RJ11 connector & 9pin D- shell connector
c) RJ 11 connector only
d) RJ 45 connector only

167) WEBFIL Mux uses __ cross-connect table when tributary A is having a major alarm ( )
a) Faulty A b) Modified Remote A
c) Digital bypass d) None

168) In WEBFIL mux, the station ID is set in/on ( )
a) Tributary module b) Mother board c) NIM card d) None

169) In WEBFIL mux, internal/extracted clock setting is done in/on ( )
a) Tributary module b) Mother board c) NIM card d) None

170) In WEBFIL mux, the master /slave setting is done in/on ( )
a) NIM card b) Tributary module
c) Voice module d) Data module

171) In WEBFIL Mux, setting of D/I or End Terminal mode is done in/on ( )
a) Tributary module b) NIM card c) Mother board d) None

172) In WEBFIL mux, the output voltages of power supply card are ( )
a) +5V, +/- 12V, +/- 80V b) +/-5V, +/-10V, + 80V
c) +5V, +/-10V, + 80V d) None

173) In WEBFIL Mux, _____ is a system related alarm ( )
a) AIS b) Configuration error c) RMA d) BER

174) In WEBFIL Mux, during the ___ operation of the network the NMS is kept under scan mode ( )
a) Normal b) Abnormal c) Emergency d) None

175) In WEBFIL mux, ___ is a remote related alarm ( )
a) AIS b) BER c) RMA d) None

176) Nokia system is available for _____ data rates ( )
a) 2Mb & 8Mb b) 2Mb, 8Mb & 34Mb
c) 2 Mb, 8Mb, 34Mb & 140Mb d) 2Mb only

177) The Nokia system Rack consists of ( )
a) Multiplexer
b) Optical Line Terminal Equipment
c) Both Multiplexer & Optical Line Terminal Equipment
d) None of the above

178) In Nokia system Drop/Insert Mux is configured as ( )
a) DM2 b) DB2 c) DF2 d) None

179) In Nokia system 2 Mb branching can be realized using _____ card ( )
a) DM2 b) DB 2B c) DF2 d) None

180) In Nokia system, the following can be configured in DM2 with Service Terminal( )
a) Branching of channels b) Time slot selections
c) Impedance settings d) All of the above

181) In Nokia system, the data interface card supports_____ channels ( )
a) 4 b) 6 c) 8 d) 10

182) In Nokia system, the E&M/VF card supports _____ channels ( )
a) 4 b) 6 c) 8 d) 10

183) In Nokia system each FXS card has ____ports ( )
a) 4 b) 6 c) 2 d) 8.

184) The Multiplexing system of NOKIA is configured into two types of configurations DM2 and DB2 ( )
a) 2 b) 4 c) 5 d) 3.

185) In Nokia system there are two types of loop backs in DM2 ( )
a) 2 b) 4 c) 5 d) 3.

186) In Nokia system each E & M card has ____ports ( )
a) 4 b) 8 c) 2 d) 6.

187) 2/34 Mb/s Digital MUX equipment is also known as _____ equipment ( )
a) Trans Mux b) Primary Mux c) Skip Mux d) Drop/insert Mux

188) 2/34 Mb Mux multiplexes _____ numbers of Plesiochronous 2 Mb/s bit stream into one 34 Mb/s bit stream ( )
a) 4 b) 8 c) 12 d) 16

189) In 2/34 MUX , the multiplexing principle used is ( )
a) cyclic bit interleaving b) Byte interleaving c) both a & b d) None

190) In 2/34 MUX, _____ justification is employed ( )
a) Negative b) Zero c) Positive d) None

191) In 2/34 MUX, TRF Alarm pertains to Absence of _____ ( )
a) 2Mbps tributary receive clock b) 34 Mbps input
c) 2 Mbps input d) 34Mbps tributary receive clock

192) In 2/34 MUX, HTF Alarm pertains to Absence of _____ ( )
a) 2Mbps tributary receive clock b) 34 Mbps input
c) 2 Mbps input d) 34Mbps tributary receive clock

193) In 2/34 MUX, the output voltages of power supply card are ( )
a) +5V,-5V b) +15V, +5V
c) +5V, -5V and +15 V d) +5V,-5V, +15V and -15 V

194) VMUX-0100 provides _____ Voice/Data ports in the 19" sub-rack ( )
a) 30 b) 40 c) 50 d) 60.

195) In VMUX-0100 a maximum of ___ conferences can be configured as 4-party( )
a) 18 b) 30 c) 12 d) 08.

196) VMX -0100 shelf has _____ slots ( )
a) 13 b) 14 c) 12 d) 15

197) TME card of VMMX-0100 can be located in the slot no. _____ ( )
a) 1 b) 2 c) 3 d) Any slot

198) User Interface cards of VMUX-100 can be installed in _____ ( )
a) Slot 1 to Slot4 b) Slot 5 to Slot 10
c) Slot 5 to Slot 14 d) Any slot

199) Redundant power supply card can be installed in slot no.___ of VMUX-0100 ( )
a) 1 b) 1 and 2 c) 2 d) 3.

200) In case of any major failure in the network of VMUX-100, _____
card is used to protect the P1 and P2 streams carrying the traffic ( )
a) TME b) DAC c) FXS d) LPC

201) To set the ID of VMUX-0100, an eight position DIP switch has been provided on ( )
a) TME card b) DAC card c) FXO card d) Motherboard

202) The ID of the equipment is required for the _____ operation and forms the address of the basic frame of VMUX-0100 ( )
a) NMS b) NMT c) E1 d) Both a & b.

203) NMS Ethernet and RS-232 connectors are located on _____ ( )
a) LPC b) Mother board c) TME d) DAC

204) In VMUX-0100, P1 LCL (ON) alarm indicates ( )
a) PCM-1 receives all 1s (AIS) b) PCM-1 frame loss
c) PCM-1 loss of signal d) PCM-1 multi frame loss

205) In VMUX-0100, P1 RMT (ON) alarm indicates ( )
a) PCM-1 receives all 1s (AIS) b) PCM-1 frame sync loss
c) PCM-1 loss of signal d) PCM-1 multi frame sync loss

206) In VMUX-0100, P1 LCL (Fast blinking) alarm indicates ( )
a) PCM-1 receives all 1s (AIS) b) PCM-1 frame sync loss
c) PCM-1 loss of signal d) PCM-1 error rate >E 10^{-3}

207) In VMUX-0100, the output voltages of power supply card are ( )
a) +5V,-5V b) +12V, +5V
c) +5V, +12V and -12 V d) +5V,-5V, +12V and -12V

208) In VMUX-0100, FXO card is_____interface ( )
a) Exchange b) Subscriber c) Hotline d) Data

209) In VMUX-0100 the data acquisition card (DAC) is required for ( )
a) HOT LINE b) Voltage Monitoring c) E & M d) Subscriber line

210) In VMUX-0100 ___ card is required for Subscriber, Loop out going and Hot line interfaces ( )
a) FXS b) FXO c) E & M d) NIM

211) In PD- Mux, a control circuit is configured in ( )
a) Semi conference mode b) Point to point mode
c) Conference mode d) None

212) In Railways the PD-Muxes are in ( )
a) Mesh topology b) Ring topology c) Star topology d) Linear topology

213) Use of LPC card & 2 E1s at every station for all time slot protection scheme is used in ( )
a) Webfil Mux b) Nokia Mux
c) Puncom V-0100 mux d) Puncom V-Mux 30-A

214) Ring protection (using spare time slots in working E1) scheme is implemented in( )
a) Puncom VMUX-0100 b) Webfil Mux c) Nokia Mux d) Both b & c

215) PD-mux requires __ level of input ( )
a) E-1 b) E-3 c) E-2 d) E-4

216) In 1 E1 ____number of voice/data channels can be configured ( )
a) 15 b) 20 c) 30 d) 32.

217) In 1 E1 supports _____number of time slots ( )
a) 15 b) 20 c) 30 d) 32.

218) Time slot TS-0 is reserved for ( )
a) Synchronisation b) Signalling c) Mapping d) Monitoring

219) Time slot TS-16 is reserved for ( )
a) Synchronisation b) Signalling c) Mapping d) Monitoring

220) LPC card is available in _____mux ( )
a) Webfil mux b) PUNCOM mux c) NOKIA mux d) All

ANSWERS KEY

1	2	3	4	5	6	7	8	9	10
c	d	a	a	b	a	b	a	d	a
11	12	13	14	15	16	17	18	19	20
a	b	a	a	b	b	a	b	b	a
21	22	23	24	25	26	27	28	29	30
a	a	b	a	b	c	c	c	b	a
31	32	33	34	35	36	37	38	39	40
b	a	c	a	b	a	c	b	b	b
41	42	43	44	45	46	47	48	49	50
d	d	c	a	b	c	c	c	c	c
51	52	53	54	55	56	57	58	59	60
a	a	a	a	b	c	b	a	b	c
61	62	63	64	65	66	67	68	69	70
b	b	d	c	c	d	a	a	d	b
71	72	73	74	75	76	77	78	79	80
d	a	a	c	a	a	a	b	a	a
81	82	83	84	85	86	87	88	89	90
a	a	d	d	d	a	b	a	a	d
91	92	93	94	95	96	97	98	99	100
b	d	d	d	a	a	b	c	b	b
101	102	103	104	105	106	107	108	109	110
b	b	a	a	a	a	c	a	d	b
111	112	113	114	115	116	117	118	119	120
c	a	a	c	a	a	a	a	a	a
121	122	123	124	125	126	127	128	129	130
a	a	a	a	a	a	b	a	b	b
131	132	133	134	135	136	137	138	139	140
a	a	a	a	a	a	a	a	a	a
141	142	143	144	145	146	147	148	149	150
a	a	a	a	a	c	a	d	d	a
151	152	153	154	155	156	157	158	159	160
c	d	a	c	c	b	d	a	b	a
161	162	163	164	165	166	167	168	169	170
c	c	d	b	d	b	a	c	a	a
171	172	173	174	175	176	177	178	179	180
a	c	b	a	a	b	c	b	b	d
181	182	183	184	185	186	187	188	189	190
d	c	b	a	a	b	c	d	a	c
191	192	193	194	195	196	197	198	199	200
c	d	d	b	d	b	c	c	c	d
201	202	203	204	205	206	207	208	209	210
d	a	c	c	a	b	c	a	b	a
211	212	213	214	215	216	217	218	219	220
c	d	c	d	a	c	d	a	b	b

ST-51 : AMPLIFIERS, OSCILLATOR & WAVE PROPOGATION

1) How many type of amplifiers depending on the property of their output ( )
   A. Two B. Three C. Four D. Six

2) ____ Amplifiers increase the amplitude of the output voltage of the signal. ( )
   A. Voltage Amplifier B. Power Amplifier
   C. Current Amplifier D. All Of the Above

3) Current amplifier transforms only the current component of the _____ ( )
   A. Input Signal B. Output Signal C. A & B D. Output Gain

4) Which of the following are power amplifiers? ( )
   A. Class A B. Class B or AB C. Class C or D D. All

5) Which type of power amplifier is biased for operation at less than 180º of the cycle? ( )
   A. Class A B. Class B or AB C. Class C D. Class D

6) Which type of amplifier uses pulse (digital) signals in its operation? ( )
   A. Class A B. Class B or AB C. Class C D. Class D

7) Which of the power amplifiers has the lowest overall efficiency? ( )
   A. Class A B. Class B or AB C. Class C D. Class D

8) _____ Amplifiers primarily provide sufficient power to an output load to drive a speaker from a few watts to tens of watts. ( )
   A. Small-signal B. Power C. Large-signal D. None

9) Audio Frequency Amplifiers frequencies are in the range is ____ ( )
   A. 15 Hz to 20 kHz B. 20 Hz to 20 kHz
   C. 15 kHz to 20 MHz D. 20 kHz to 20 MHz

10) Intermediate frequencies amplifiers in receivers are used in___ ( )
   A. Radar B. Radio C. TV D. All

11) Radio Frequency amplifiers Input is ____ resistance , ____ gain ( )
   A. Low Resistance, low Gain B. Low Resistance, High Gain
   C. High Resistance, low Gain D. High Resistance, High Gain

12) Wideband amplifiers used in _____ ( )
   A. Level meter B. oscilloscopes C. VF repeater D. TMS Kit

13) Direct coupled or DC amplifiers are used to amplify ___ frequency signals ( )
   A. Low B. High C. Very Low D. All

14) In an LC transistor oscillator, the active device is _____ ( )
   A. LC tank circuit B. Biasing circuit C. Transistor D. None

15) In an LC circuit, when the capacitor is maximum, the inductor energy is __ ( )
A. Minimum B. Maximum
C. Half-way between maximum and minimum D. None

16) An oscillator produces _____ oscillations ( )
A. Damped B. Harmonics C. Modulated D. None

17) An oscillator employs _____ feedback ( )
A. Positive B. Negative
C. Neither positive nor negative D. Both positive and negative

18) Hartley oscillator is commonly used in _____ ( )
A. Radio transmitters B. TV receivers C. Radio Receivers D. None

19) _____is a fixed frequency oscillator ( )
A. Phase-shift oscillator B. Hartely-oscillator
C. Colpitt's oscillator D. Crystal oscillator

20) In Colpitt's oscillator, feedback is obtained _____ ( )
A. By magnetic induction B. By a tickler coil
C. From the centre of split capacitors D. None

21) An important limitation of a crystal oscillator is _____ ( )
A. Its low output B. Its high Q
C. Less availability of quartz crystalD. Its high output

22) If the crystal frequency changes with temperature, we say that crystal has _____ temperature coefficient ( )
A. Positive B. Zero C. Negative D. None

23) The crystal oscillator frequency is very stable due to _____ ( )
A. Rigidity B. Vibrations C. Low Impedance D. High Impedance

24) How many phase shift oscillators are used in ___ RC sections ( )
A. Two B. Three C. Four D. None

25) In simplex communication the Trans and receive frequencies are ( )
A. Same B. Low C. High D. All

26) Simplex communication system Antenna normally connected to ( )
A. Transmitter B. Receiver C. Amplifier D. All

27) In ground wave Propagation very low frequency range is ___ ( )
A. 3 to 30 kHz B. 3 to 35 kHz C. 2 to 20 kHz D. 2 to 25 kHz

28) What is the functioning role of an antenna in receiving mode? ( )
A. Radiator B. Converter C. Sensor D. Inverter

29) Ground wave propagation Frequencies are transmitted up to __ ( )
A. 2 kHz B. 8 MHz C. 2MHz D. 8 kHz

30) _____ propagation transmit the electromagnetic signals are directed towards sky ( )

A. Ground wave B. Sky wave C. Line of sight D. space wave

31) _____ Propagation is used for long distance communication. ( )

A. Ground wave B. Sky wave C. Line of sight D. space wave

32) Directivity Of Dipole Antenna feed point impedance is ____ ( )

A. 30 Ohms B. 25 Ohms C. 72 Ohms D. 36 Ohms

33) The oscillator converts _____ ( )

A. AC to AC B.AC to DC C. DC to AC D. DC to AC

34) How many type of audio frequency amplifiers _____ **( )**

A. One B. Two C. Four D. Three

35) How many type of Radio frequency amplifiers _____ **( )**

A. One B. Two C. Four D. Three

36) Amplitude modulation (AM): Used in ____ frequency Transmission ( )

A. Low B. High C. MW D. All

37) Frequency modulation (FM): used in_____ Transmission. ( )

A. VHF B. UHF C. MW D. All

38) In transmitter __ converts the audio signal into electrical signal ( )

A. Microphone B. AF Amplifier C. Modulator D. None

39) Ground Plane (GP) Antenna feed point Impedance is _____ ( )

A. 30 Ohms B. 25 Ohms C. 72 Ohms D. 36 Ohms

40) Yagi Antenna feed point Impedance is _____ ( )

A. 30 Ohms B. 25 Ohms C. 72 Ohms D. 36 Ohms

A N S W E R S K E Y

01	02	03	04	05	06	07	08	09	10
B	A	A	D	C	D	A	B	B	D
11	12	13	14	15	16	17	18	19	20
A	B	C	C	A	B	A	C	D	C
21	22	23	24	25	26	27	28	29	30
A	A	D	B	A	A	A	C	C	B
31	32	33	34	35	36	37	38	39	40
B	C	C	B	B	B	D	A	D	B

ST-52 : DIGITAL ELECTRONICS

1) Some examples of devices or quantities which are digital in their behavior are _____ ( )
   a) Atmospheric pressure b) Day & night temperature
   c) Toggle switch & relay d) None

2) The Octal system has a base of _____ ( )
   a) 2 b) 4 c) 8 d) 16

3) Which number system has a base of 16 ( )
   a) Decimal b) Octal c) Hexadecimal d) None

4) How many bits are required to store one BCD digit? ( )
   a) 1 b) 2 c) 3 d) 4

5) A group of bits that can be accessed at a time in parallel by a central processing unit is called _____. ( )
   a) nibble b) byte c) word d) bit

6) A group of 8 bits is called as a _____. ( )
   a) nibble b) byte c) word d) bit

7) A logic gate can have _____ ( )
   a) only one input and many outputs b) many inputs and only one output
   c) many inputs and many outputs d) one or many inputs and only one output

8) OR gate is one of the _____ gates. ( )
   a) universal gate b) combinational gate
   c) basic gate d) sequential gate

9) NOR gate is OR gate followed by _____ ( )
   a) AND gate b) NAND gate c) NOT gate d) None

10) Logic of EX-OR gate is of _____ parity. ( )
   a) odd parity b) even parity c) no parity d) none

11) The logic gate which inverts its input is _____gate ( )
   a) NOR gate b) NAND gate c) AND gate d) NOT gate

12) NAND is equivalent to a _____ gate ( )
   a) AND gate plus OR gate b) AND gate plus NOR gate
   c) AND gate plus NOT gate d) AND gate plus AND gate

13) The complement of the sum is equal to the _____ ( )
   a) sum of the complements b) product of the complements
   c) complement of the products d) none of the above

14) The complement of the product is equal to the _____ ( )
   a) complement of the sum b) sum of the complements
   c) product of the complements d) none

15) Application of Decoder is in_____. ( )
a) Microprocessors b) memory chips
c) multiplexers for selecting logic d) All

16) A Full Adder adds _____ bits at a time. ( )
a) 3 bits at a time b) 2 bits at a time c) 4 bits at a time d) None

17) Multiplexer is a _____digital device ( )
a) Many input to one output b) One output to many output
c) One input to one output d) Many input to many output

18) The selection logic in multiplexer is provided by a _____. ( )
a) Clock b) Decoder c) Register d) None

19) A Flip Flop works on the principle of _____ ( )
a) Astabale multivibrator b) Monostable multivibrator
c) Bistable multivibrator d) None

20) The prohibited state in SR flip flop which needs to be avoided is ( )
a) S=R=0 b) S=0, R=1 c) S=1, R=0 d) S=1, R=1

21) T-flipflop finds its application in frequency division since it divides the clock frequency by_____ ( )
a) 2 b) 4 c) 2n-1 d) 4n-1

22) In a Delay (D) flip flop,_____after the propagation delay ( )
a) Input follows input b) Input follows output
c) Output follows input d) Output follows output

23) T flip flop is mainly used for constructing _____. ( )
a) Frequency dividers b) Registers c) Counters d) None

24) Which one of the flip flops can be called as a Universal flip flop? ( )
a) D Flip flop b) T Flip flop c) SR Flip flop d) JK Flip flop

25) A counter is made up of _____ flip flops. ( )
a) SR Flip flop b) D Flip flop c) T Flip flop d) T Flip flops or JK Flip flops

26) For constructing down counters ____ triggered flip flops are used. ( )
a) +ve edged b) -ve edged c) Both +ve edged & -ve edged d) None

27) Among the following sequential logic circuits, which circuits are adopted for the designing of a sequence generator? ( )
a) Shift registers b) Counters c) Both a & b d) None

28) Registers are constructed using _____ only. ( )
a) D Flip-flops b) T Flip-flops c) JK Flip Flops d) SR Flip-flops

29) A digital Demultiplexer has _____ ( )
a) Many inputs and a single output selectively b) A single input and many output
c) Many inputs and many outputs d) None

30) One of the common type of RAM is ( )
a) EEPROM b) Mask ROM c) DRAM d) DDRAM

31) Actually RAM should be called as _____ memo ( )
a) Read/Write b) Volatile memory
c) Read/Write & Volatile d) Nonvolatile memory

32) Main disadvantage of EEPROM is _____ ( )
a) It takes longer time for programming b) It can be erased electrically
c) Requires ultraviolet light for erasing d) All

33) Among all types of memory devices which one you think as the best? ( )
a) Flash RAM b) ROM c) PROM d) EPROM

34) Application of Codes in digital systems is to _____ ( )
a) To represent numerals & characters b) To represent alphabets of languages
c) To represent numbers & text characters d) To represent all the above a, b & c

35) BCD is mainly used for _____. ( )
a) representing the 10 numerals in decimal number system
b) representing the numerals using 4-bit binary codes
c) representing the 10 numerals in decimal number system using 4-bit binary code
d) Representing the 10 numerals in octal number system

36) Conversion from Binary to Gray code involves _____ ( )
a) Keeping the first Gray digit as same as the first binary digit
b) Add each pair of adjacent bits in binary to get the next Gray digit
c) Disregard any carries
d) Involves all the above a, b, & c procedure

37) Unicode is a not _____ bit code. ( )
a) 4-bit code b) 8-bit code c) 16-bit code d) 32-bit code

38) The basic ASCII is a _____bit code ( )
a) 4-bit code b) 7-bit code c) 8-bit code d) 16-bit code

39) The mostly used and popular logic families are_____ ( )
a) Diode logic b) High threshold logic
c) Metal oxide semiconductor logic d) TTL & CMOS

40) _____logic families consume very low current ( )
a) Transistor-Transistor logic b) Diode Transistor logic
c) Resistor Transistor logic d) Complementary Metal Oxide Semiconductor Logic

41) Max. Sink current of TTL devices is _____ ( )
a) 2 mA. Max. b) 16 mA. Max c) 5 mA d) 10 mA

42) Fan-in of digital gate means ( )

a) Number of inputs a gate can have
b) Number of outputs a gate can have
c) Number of input and outputs a gate can have
d) Number of gates that each gate can drive

43) Sourcing current is _____ ( )

a) current supplied by the logic device
b) current accepted by the logic device
c) current supplied and accepted by the logic device
d) none

44) In Boolean algebra, the bar sign (-) indicates _____ ( )

a) OR operation b) AND operation c) NOT operation d) None

45) 2's complement of binary number 0101 is _____ ( )

a) 1011 b) 1111 c) 1101 d)1110

46) A device which converts BCD to seven segments is called ___ ( )

a) Encoder b) Decoder c) Multiplexer d) None

47) The inverter is _____ ( )

a) NOT gate b) OR gate c) AND gate d) None

48) Which of the following gate is a two level logic gate ( )

a) OR gate b) NAND gate c) EXCLUSIVE gate d) NOT gate

49) Excess-3 code is known as ( )

a) Weighted code b) Cyclic redundancy code
c) Self-complimentary code d) Algebraic code

50) The NOR gate is OR gate followed by __ ( )

a) AND gate b) NAND gate c) NOT gate d) None

ANSWERS KEY

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

ST- 53 : EMERGENCY COMMUNICATION

1) Emergency control communication socket is provided at every ( )
   a) 1000 mts b) 100 mts c) 915 mts d) None

2) Emergency control communication circuit is monitored at Hq by ( )
   a) Engineering controller b) Traction Power controller
   c) Train loco controller d) S&T controller

3) Emergency control communication socket has six pin in which Pin no 1&6 is for ( )
   a) Trans pair b) Receive pair c) Signalling pair d) Auto phone

4) Emergency control communication socket has six pin in which pin no 2&5 is for ( )
   a) Trans pair b) Receive pair c) Signalling pair d) Auto phone

5) Emergency control communication socket has six pin in which pin no 3&4 is for ( )
   a) Trans pair b) Receive pair c) Signalling pair d) Auto phone

6) Phone provided in Emergency socket is ( )
   a) PT set b) Control phone
   c) Selective calling phone d) Magneto phone

7) Mobile Phone SIM used in ART for FCT are ( )
   a) Air tel b) JIO c) Idea d) All

8) VHF frequency range is ( )
   a) 30 Khz to 300 Khz b) 20 Hz to 20 Khz
   c) 30 Mhz to 300 Mhz d) 300 Mhz to 3000 Mhz

9) 25 watts VHF sets are provided at ( )
   a) All way stations b) Intermediate stations
   c) Important stations d) All the above

10) 5 watts VHF set are provided to ( )
   a) Driver and Guard of trains b) All department staff
   c) Both d) None

11) Working voltage of PT set ( )
   a) 6 V DC b) 3 V DC c) 12 V DC d) 1.5 V DC

12) Working voltage of 25 watts VHF set ( )
a) 18 V DC b) 7.5 V DC c) 12 V DC d) 24 V DC

13) VHF set operates on _____ mode of operation ( )
a) Simplex b) Semi duplex c) Duplex d) Triplex

14) Distance covered by the 25 watts VHF set is ( )
a) 25Kms b) 5Kms c) 10 Kms d) 15 Kms

15) Distance covered by the 5 watts VHF set is ( )
a) 4-6 Kms b) 6-8 Kms c) 8-10 Kms d) 2-4 Kms

16) Duty of TCM when reaches the derailment spot ( )
a) To provide Auto phone b) To provide PT set
c) To provide Magneto phone d) All the above

17) INMARSAT phone is available in ( )
a) ART b) MRV c) Both d) None

18) FCT available in ART has _____ SIMs of different service providers ( )
a) 1 No b) 2 Nos c) 3 Nos d) 4 Nos

19) Minimum Horizontal distance of telephone post from the centre of the track is( )
a) Height of the post + 5 feets b) Only 7 feets
c) Height of the post + 7 feets d) Only 5 feets

20) Number of Selective calling telephone sets should be available in ART ( )
a) 2 Nos b) 3 Nos c) 5 Nos d) 4 Nos

21) FCT is a _____Router ( )
a) CDMA b) GSM c) Both d) None

22) How many numbers of VHF 5 watts with 100% spare batteries will be available ( )
a) 10 Nos b) 20 Nos c) 30 Nos d) 40 Nos

23) How many numbers of 500 mts FS cable drums is available in ART ( )
a) 4 Nos b) 10 Nos c) 6 Nos d) 8 Nos

24) VHF set transmitting frequency and power are to be measured once in ( )
a) Three months b) Two months c) a month d) none

25) VHF systems failure must be reported to controlling officer ( )
a) Daily b) Weekly c) Monthly d) None

26) A temporary fixed danger signal consisting of red cloth supported at both ends with iron rod stretched across the line is called ( )

a) Hand signal b) banner flag c) Both d) None

27) The LED used in light weight PT set is ( )

a) Red colour b) White colour c) Yellow colour d) Multi colour

28) _____Mbps input is given to Maple – 4c equipment ( )

a) 4 b) 2 c) 8 d) 32

29) Bandwidth supported for voice, video and data by V-SAT communication is( )

a) 8 Mbps b) 4 Mbps c) 2 Mbps d) 16 Mbps

30) Which frequency band is used for communication through V-SAT ( )

a) C – band b) Ku – band c) Ext-C band d) None

ANSWERS KEY

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

ST-54 : BASICS OF SATELLITE TECHNOLOGIES,VSAT & DISASTER MANAGEMENT COMMUNICATION

1) The transmitter-receiver combination in the satellite is known as a _____ ( )
   a. Relay b. Repeater c. Transponder d. Duplexer

2) What is the reason for carrying multiple transponders in a satellite? ( )
   a) More number of operating channel b) Better reception
   c) More gain d) Redundancy

3) Why are VHF, UHF, and microwave signals used in satellite communication?( )
   a) More bandwidth b) More spectrum space
   c) Are not diffracted by the ionosphere d) Economically viable

4) Which of the following bands cannot be used for satellite communication? ( )
   a) MF b) Ku c) X d) C

5) Which of the following is not a satellite subsystem? ( )
   a) Ground station b) Power system
   c) Telemetry tracking d) Communication subsystem

6) Which of the following components receives, translates the signal frequency and re-transmits the signal in a satellite? ( )
   a) Repeater b) Relay c) Transponder d) Transducer

7) Which of the following transponders convert the uplink signal to downlink signal using two mixers ( )
   a) Single conversion transponders b) Dual conversion transponders
   c) Regenerative transponders d) Dual mixer transponder

8) When is the speed of the satellite maximum in an elliptical orbit? ( )
   a) Retrograde b) Posigrade c) Perigee d) Apogee

9) The time period taken by the satellite to complete one orbit is called ( )
   a) Lapsed time b) Time period c) Sidereal period d) Unit frequency

10) To use a satellite for communication relay or repeater purposes what type of orbit will be the best? ( )
   a) Circular orbit b) Elliptical orbit
   c) Geosynchronous orbit d) Triangular orbit

11) What percentage of the earth can communication satellites see? ( )
   a) 20 b) 50 c) 70 d) 40

12)What is the point on the surface of the earth that is directly below the satellite called? ( )

a) Satellite point b) Sub satellite point

c) Super satellite point d) Overhead point

13)_____ law states that the path followed by the satellite around the primary will be an ellipse ( )

a. newton's first law b. kepler's first law

c. kepler's second law d. kepler's third law

14)___law states that for equal time intervals, the satellite will sweep out equal areas in its orbital planes, focused at the barycenter. ( )

a. newton's first law b. kepler's first law

c. kepler's second law d. kepler's third law

15)Which of the following comes under methods of multiple access techniques ?( )

a. FDMA & TDMA b. SCPC & CDMA

c. CDMA & GSM d. none of these

16)What is meant by GPRS ? ( )

a. General packet receiver service b. General packet radio service

c. Global packet radio service d. none

17)Television transmission is an example of which type of transmission? ( )

a. simplex b. half duplex c. full duplex d. none

18) Collects a very weak signal from a broadcast satellite? ( )

a. helical antenna b. satellite dish c. LNA d.TWT

19)The earth area covered by a satellite radio beam is known as ( )

a. beam width b. band width c. footprint d. zone

20)A satellite signal transmitted from a satellite transponder to earth's station ( )

a. up link b. down link c. terrestrial d. earth bound

21)What band does VSAT first operate? ( )

a. L-band b. X-band c. C-band d. Ku-band

22)VSAT was made available in? ( )

a. 1979 b. 1987 c. 1983 d. 1973

23)What kind of battery panels are used in advance satellites ( )

a. germanium based panels b. silicon based panels

c. gallium phosphate solar panel array d. gallium arsenide solar panel array

24)The radio-frequency band mainly used by most satellites is ( )

a. EHF b. UHF c. VHF d. SHF

25)A geostationary satellite is one which ( )

a. hangs motionless in space about 36000 km about Earth

b. travels around the Earth in 24 hours

c. remains stationary above the Earth

d. appears stationary to everybody on Earth

26)The VSAT technology is based on ( )

a. wired satellite technology b. wireless satellite technology

c. both a & b d. none

27)The VSAT networks offer value added satellite based services capable of supporting the ( )

a. internet b. data c. video d. all

28)The VSAT system operates in two different bands named ( )

a. Ku-band b. C-band c. both a & b d. none

29)The Ku-band networks commonly used in ( )

a. Europe & north America b. asia & Africa

c. latin America d. both a & b

30)The C-band networks commonly used in ( )

a. Europe & north America b. asia & Africa

c. latin America d. both b & c

31)Which band of frequencies require the large VSAT antenna ( )

a. Ku-band b. C-band c. both a & b d. none

32)Which band of frequencies require the smaller VSAT antenna ( )

a. Ku-band b. C-band c. both a & b d. none

33)The VSAT system operates under C-band frequency are ( )

a. 5.925 to 6.425 GHz b. 3.7 to 4.2 GHz

c. both a & b d. none

34)The VSAT system operates under Ext-C band frequency are ( )

a. 6.725 to 7.025 GHz b. 4.5 to 4.8 GHz

c. both a & b d. none

35)The VSAT system operates under Ku-band frequency are ( )

a. 14.0 to 14.5 GHz b. 10.95 to 11.7 GHz

c. both a & b d. none

36)Name the two major VSAT topology's ( )

a. star & triangle b. mesh & bus c. star & mesh d. ring & bus

37)With a star topology the VSAT terminal transmits using ( )

a. FDMA b. FLST c. CDMA d. TDMA

38)With a star topology the hub terminal transmits using ( )

a. TDMA b. TDM c. FDMA d. CDMA

39)VSAT is the acronym for ( )

a. very small aperture terminal b. vertical satellite augmented terminal

c. very small augmented terminal d. none

40)VSAT's are small station with antenna diameter from ( )

a. 4 mtrs down to 1 mtrs b. 6 mtrs down to 2 mtrs

c. 2.4 mtrs down to 45 cms d. 20 mtrs down to 5 mtrs

41)Meshed networks are also known as ( )

a. point to multipoint networks b. point to point networks

c. multipoint to multipoint networks d. none

42)E1 Modem transmission speed is ( )

a. 6 Mbps b. 4 Mbps c. 2 Mbps d. 512 Kbps

43)Components of VSAT network are ( )

a. master earth station b. remote earth station

c. satellite d. all of the above

44)The master earth station has a large ___meter antenna ( )

a. 3 mtr b. 6 mtr c. 4 mtr d. 2 mtr

45)The remote earth station of VSAT comprises of ( )

a. outdoor unit (ODU) b. indoor unit (IDU)

c. inter facility line (IFL) d. all of the above

46)Portable exchange provided in ART during disaster is ( )

a. Siemens hipath 3800 b. coral 6000

c. C-DOT exchange d. none

47) Number of 5 W VHF sets provided in ART is ( )

a. 30 No's b. 45 No's c. 15 No's d. 10 No's

48) VSAT provided in ART supports __communication ( )

a. voice b. data c. video d. all

49)Frequency allotted for ART communication in 5W VHF set is ( )

a. 147.975 MHz b. 159.650 MHz c. 161.425 MHz d. 159.700 MHz

50)Bandwidth hired for disaster communication from INSAT-4CR satellite is ( )

a. 2 Mbps b. 4 Mbps c. 8 Mbps d. 34 Mbps

A N S W E R K E Y

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

ST-55 : IP BASED VIDEO SURVEILLANCE SYSTEM & ISS

1) RDSO Specification of IP Based video surveillance system is ( )
   a. RDSO/SPN/TC/65/2019 Revision 5.0
   b. RDSO/SPN/TC/64/2019 Revision 5.0
   c. RDSO/SPN/TC/65/2001 Revision 5.0
   d. RDSO/SPN/TC/64/2010 Revision 5.0

2) Advantage of IP Based video surveillance system is ( )
   a. remote accessibility b. high image quality
   c. event management d. all of the above

3) Network cameras and video encoders have built-in features such as ( )
   a. video motion detection. b. audio detection alarm
   c. active tampering alarm d. all of the above

4) Power over Ethernet (PoE) technology cannot be applied to ( )
   a. digital video system b. analog video system
   c. both a & b d. none

5) Type of RAID level used in IP based surveillance system is ( )
   a. RAID-2 b. RAID-3 c. RAID-4 d. RAID-5

6) Video analytical software is used in ( )
   a. touch screen system b. IP based video surveillance system
   c. IVRS system d. IPIS system

7) Which one is the image capturing technology ( )
   a. charged couple device (CCD) b. complementary metal oxide semiconductor
   c. megapixel sensor d. all of the above

8) Wireless transmitter/receiver unit uses ____ unlicensed frequency band ( )
   a. 2.4 GHz b. 5.8 GHz c. both a & b d. none

9) When connecting a camera, when distance exceeds more than 90 mtrs _____ cable is used ( )
   a. OFC b. CAT cable c. RG-11 cable d. None

10) Which is not the RDSO specification of layer-3 switch is ( )
   a. RDSO/SPN/S/83/2008 b. RDSO/SPN/TC/82/2008
   c. RDSO/SPN/TC/81/2008 d. ALL the above

11) RAID full form is ( )
   a. redundant array of independent disks b. redundant array of internal disks
   c. redundant array of integrated disks d. redundant array of inbuilt disks

12) Minimum hard disk capacity required for IP based Surveillance System ( )
   a. 18TB b. 10 TB c. 8 TB d. 36 TB

13) Network video recorder is used in ( )
a. digital video system b. analog video system
c. both a& b d. none

14) Minimum storage capacity of video files of IP based surveillance system ( )
a. 30 days b. 45 days c.15 days d. 60 days

15) Minimum capacity of UPS required for IP based surveillance system is ( )
a. 1 KVA b. 6 KVA c. 10 KVA d. 16 KVA

16) Online UPS configuration required for IP based surveillance system is ( )
a. N+1 configuration b. N+2 configuration
c. N+3 configuration d. N+4 configuration

17) Integrated security system consists of ( )
a. CCTV Surveillance system with IP based cameras.
b. Under Vehicle Scanning System (UVSS).
c. Personal and X-ray baggage screening system.
d. all of the above

18) Video analytic software should have the following feature ( )
a. intrusion detection b. left object detection
c. overcrowding d. all of the above

19) Video Analytics and Face Recognition Software shall be deployed on ( )
a. Servers b. clients c. desktop pc d. router

20) Provision for Viewing and Monitoring of Camera streams shall be provided at( )
a. Divisional HQ b. any other centralized location
c. RPF / GRP thana/Post d. all of the above.

21) Video surveillance system at stations should be installed at ( )
a. non-RE area only b. RE area only
c. both a & b d. none

22) NVR (Network Video Recorder) should support ( )
a. recording b. Replay c. backup d. all

23) NVR records upto 100 Mbps of ( )
a. video only b. audio only c. both a & b d. none

24) Type of alarm received by NVR from video servers to start a recording is ( )
a. motion detection b. video loss c. trigger input d. all

25) Specification of Power cable used in IP based video surveillance system is ( )
a. 3core 2.5 sqmm. b. 2 core 2.5 sqmm.
c. 3 core 1.5 sqmm d. none

26) For connecting analog camera to video encoder ___cable is used ( )

a. RG-11 b. RJ-45 c. RG-58 d. OFC

27) CAT cable supports a maximum distance of up to __ mtrs ( )

a. 100 mtrs b. 200 mtrs c.300 mtrs d. 500 mtrs

28) RG-11 cable supports a maximum distance of up to ___ mtrs ( )

a. 100 mtrs b. 200 mtrs c. 350 mtrs d. 500 mtrs

29) Type of camera installed at platforms & foot over bridge is ( )

a. full HD bullet type IP colour camera b. full HD fixed dome type IP camera

c. Full HD P/T/Z IP colour camera d. all of the above

30) Intrusion detection feature generates alarm when ( )

a. People crossing the tracks at platform ends

b. Object/ baggage left behind at platform

c. scene is over-crowded

d. all of the above

A N S W E R K E Y

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

ST-56 : RADIO COMMUNICATION

1) An electromagnetic wave consists of _____ ( )
   a. Both electric and magnetic fields. b. an electric field only
   c. A magnetic field only d. Non-magnetic field only

2) What is the lowest layer of the ionosphere? ( )
   a. F1 b. F2 c. E d. D

3) Frequencies in the UHF range propagate by means of ( )
   a. Ground waves b. Sky waves c. Surface waves d. Space waves

4) Fading due to interference between direct and reflected rays. ( )
   a. atmospheric-multipath b. Fresnel zone
   c. reflection-multipath d. Rayleigh fading

5) What layer is used for high-frequency day time propagation? ( )
   a. D Layer b. E Layer c. F1 Layer d. F2 Layer

6) By which name/s is an ionospheric propagation, also known as? ( )
   a. Sea wave propagation b. Ground wave propagation
   c. Sky wave propagation d. All of the above

7) Velocity of a radio wave in free space. ( )
   a.186, 000 miles per sec b. $300x10^6$ meters per sec
   c.162, 000 nautical miles per sec d. All of the above

8) Diffraction of electromagnetic waves ( )
   a. is caused by reflections from the ground
   b. arises only with spherical wave fronts
   c. will occur when the waves pass through a large slot
   d. may occur around the edge of a sharp object

9) Microwave signals propagate by way of the ( )
   a. Line of sight propagation b. Sky wave
   c. Surface wave d. Standing wave

10) The ionosphere causes radio signals to be ( )
   a. Diffused b. Absorbed c. Refracted d. Reflected

11) Ground wave communications is most effective in what frequency range? ( )
   a. 300 KHz to 3 MHz b. 3 to 30 MHz c. 30 to 300 MHz d. Above 300 MHz

12) The ionosphere has its greatest effect on signals in what frequency range? ( )
   a. 300 KHz to 3 MHz b. 3 to 30 MHz c. 30 to 300 MHz d .Above 300 MHz

13) Electromagnetic Waves are refracted when they _____. ( )

a. pass into a medium of different dielectric constants

b. are polarized at right angles to the direction of propagation

c. encounter a perfectly conducting surface

d. pass through a small slot in a conducting plan

14) Fluctuation in the signal strength at the receiver. ( )

a. Interference b. Fading c. Tracking d. Variable frequency

15) Two or more antennas are used separated by several wavelengths ( )

a. Space diversity b. Frequency diversity

c. Hybrid diversity d. Polarization diversity

16) Two or more receivers are used using a single antenna. ( )

a. Space diversity b. Frequency diversity

c. Hybrid diversity d. Polarization diversity

17) What is the relation in degrees of the electric and magnetic fields in an electromagnetic wave? ( )

a. 180^0. b. 90^0 c. 270^0 d. 45^0

18) A diversity scheme wherein the receiver receives two fading signals from two different directions. ( )

a. Frequency diversity b. Time diversity

c. Angle diversity d. Space diversity

19) The range of frequency band termed as super high frequency (SHF) is within _____. ( )

a. 30 GHz – 300 GHz b. 30 MHz – 300 MHz

c. 3 GHz – 30 GHz d. 300 MHz – 3 GHz

20) The range of frequency band termed as high frequency (HF) is within ___. ( )

a. 300KHz – 300 KHz b. 3 MHz – 30 MHz

c. 30MHz – 300MHz d. 300 MHz – 3 GHz

21) What is selective fading? ( )

a. A fading effect caused by small changes in beam heading at the receiving station

b. A fading caused by phase difference between radio wave components of the same transmission as experienced at the receiving station

c. A fading caused by large changes in the height of the ionosphere as experienced at the receiving station

d. A fading effect caused by the time difference between the receiving and transmitting stations

22) What are electromagnetic waves? ( )

a. Alternating currents in the core of an electromagnet
b. A wave consisting of two electric fields at right angles to each other
c. A wave consisting of an electric and magnetic field at right angles to each other
d. A wave consisting of two magnetic fields at right angles to each other

23) To increase the transmission distance of a UHF signal, which of the following to do? ( )

a. Increase antenna gain b. Increase antenna height
c. Increase transmitter power d. Increase receiver sensitivity

24) Electromagnetic waves transport ( )

a. Wavelength b. Charge c. Frequency d. Energy

25) Line of sight communications is not a factor in which frequency range? ( )

a. VHF b. UHF c. HF d. Microwave

26) Way(s) of propagating electromagnetic waves: ( )

a. Ground-wave propagation b. Space wave propagation
c. Sky-wave propagation d. All of these

27) The process of inter changeability of receiving and transmitting operations of antennas is known as ( )

a. Polarization b. Reciprocity c. Efficiency d. Counterpoise

28) The antenna gain relative to the isotropic radiator is ( )

a. dB b. dB_d c. dB_i d. All the above

29) The antenna gain relative to a dipole antenna is ( )

a. dB b. dB_d c. dB_i d. All the above

30) The angular separation between the half-power points on an antenna's radiation pattern is the ( )

a. Bandwidth b. Front-to-back ratio
c. Lobe distribution d. Beam width

31) At which angles does the front to back ratio specify an antenna gain? ( )

a. 0° & 180° b. 90° & 180° c.180° & 270° d.180° & 360°

32) What is the nature of radiation pattern of an isotropic antenna? ( )

a. Spherical b. Dough-nut c. Elliptical d. Hyperbolic

33) Which conversion mechanism is performed by parabolic reflector antenna? ( )

a. Plane to spherical wave b. Spherical to plane wave
c. Both a & b d. none of the above

34) Which kind of polarization is provided by Ground plane antennas? ( )

a. Plane b. Elliptical c. Circular d. vertical

35) Which property/ies of antenna is/are likely to be evidenced in accordance to Reciprocity theorem? ( )

a. Equality of impedances b. Equality of directional patterns
c. Equality of effective lengths d. All of the above

36) Smart antennas can be categorized as ( )

a. Single input, multiple out (SIMO) b. Multiple input, single output (MISO)
c. Multiple input, multiple output (MIMO) d. All of the above

37) The beam width in directive antennas is _____ in the sectorial antenna ( )

a. Narrower than b. Same as c. Broader than d. None

38) The Smart antennas can be classified as ( )

a. Switched beam antennas b. Adaptive Array antennas
c. Both a & b d. None of them

39) The features of Smart antenna is/are ( )

a. Signal gain b. Inference rejection c. Power efficiency d. All

40) Omni directional antennas always have _____ polarization ( )

a. Horizontal b. Vertical c. Both a & b d. None of them

41) An Antenna is classified based on ( )

a. Frequency b. Size c. Directivity d. All of the above

42) The magnetic field of an antenna is perpendicular to the earth. The antenna's polarization ( )

a. is vertical b. is horizontal
c. is circular d. cannot be determined from the information given

43) Yagi antennas have again from ( )

a. 5 to 10 dBi b. 10 to 20 dBi c. 20 to 30 dBi d. None

44) Which mode of propagation is adopted in HF antennas? ( )

a) Ionospheric b) Ground wave c) Tropospheric d) all

45) Which type of wire antennas are also known as dipoles? ( )

a. Linear b. Loop c. Helical d. All

46) Linear polarization can be obtained only if the wave consists of _____ ( )

a. E_x b. E_y c. Both E_x & E_y & in phase d. Both E_x & E_y & out of phase

47) Radiation pattern is _____ dimensional quantity ( )

a. Two b. Three c. Single d. None

48) An antenna made up of a driven element and one or more parasitic elements is generally referred to as a ( )

a. Hertz antenna b. Marconi antenna
c. Collinear antenna d. Yagi antenna

49) What is an antenna? ( )

a. Impedance matching device

b. Sensor of electromagnetic waves

c. Transducer between guided wave & free space wave

d. Metallic device for radiating or receiving radio waves

50) The shape of the electromagnetic energy radiated from or received by an antenna is called the ( )

a. signal shape b. electromagnetic pattern

c. radiation pattern d. antenna pattern

51) Types of polarization are ( )

a. Two types b. Thee types c. Four types d. None

52) Signal with a frequency above 30MHz use _____propagation. ( )

a. ground b. sky c. line of sight d. none

53) A parabolic dish antenna is _____antenna. ( )

a. omnidirectional b. bidirectional c. unidirectional d. horn

54) Signals with a frequency between 2 MHz and 30 MHz use __ propagation. ( )

a. ground b. sky c. line of sight d. none

55) FM radio uses frequencies in the _____ range. ( )

a. LF b. MF c. HF d. VHF

56) The minimum number of geosynchronous satellites needed to cover the earth is _____ ( )

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

57) When a signal loses energy in overcoming the resistance of a medium, this is called _____ ( )

a) Attenuation b) Distorsion c) Noise d) All

58) Frequencies lying immediately below VHF are referred to as ( )

a) High frequency b) Ultra high frequency

c) Low frequency d) Ultra low frequency

59) What is the frequency range of VHF (Very high frequency) ( )

a) 30 MHz to 300 MHz b) 30 Hz to 300 Hz

c) 30 KHz to 300 KHz d) 30 MHz to 300 MHz

60) Radio operations used for aircraft communication make use of ( )

a) Amplitude modulation b) Frequency modulation

c) Phase modulation d) Channel Modulation

61) What is the full form of SSB modulation. ( )

a) Shaky-sideband modulation b) Separated-sideband modulation

c) Sorted-sideband modulation d) Singe-sideband modulation

62) The section of electromagnetic spectrum defined as radio communication is divided into _____ bands. ( )

a) 5 b) 6 c) 7 d) 8

63) Radio communication ranges from a frequency of ___ to a frequency of ___ ( )

a. 3 KHz; 300 MHz b. 3 KHz; 300 GHz

c. 3 MHz; 300 GHz d. 3 GHz; 300 THz

64) When radio waves travel from the lowest portion of the atmosphere, hugging the earth, this is called _____ propagation. ( )

a. surface b. tropospheric c. ionospheric d. line-of-sight.

65) Long-range radio navigation uses frequencies in the _____ranges. ( )

a. VLF and LF b. LF and MF c. MF and HF d. HF and UHF

66) AM radio uses frequencies in the _____ range ( )

a. LF b. MF c. HF d. EHF

67) FM radio uses frequencies in the _____ range ( )

a. LF b. MF c. HF d. VHF

68) Mobile telephones use frequencies in the _____ range. ( )

a. UHF b. MF c. HF d. EHF

69) In the transmission of terrestrial microwaves, _____ can regenerate the signal at each antenna. ( )

a. repeaters b. bridges c. routers d. any of the above

70) In a _____ a wide range of incoming waves is directed to a common point called the focus. ( )

a. repeater b. satellite c. parabolic dish antenna d. any of the above.

71) Frequencies for satellite communication are in the _____ range. ( )

a. millihertz b. megahertz c. gigahertz d. terahertz

72) Signals with a frequency below 2 MHz use _____ propagation. ( )

a. Ground b. sky c. line-of-sight d. none

73) Radio waves are _____ ( )

a. Omnidirectional b. unidirectional c. bidirectional d. none

74) ___ are used for cellular phone, satellite, and wireless LAN communications.( )

a. Radio waves b. Microwaves c. Infrared waves d. none

75) _____ are used for short-range communications such as those between a PC and a peripheral device. ( )
a) Radio waves b) Microwaves c) Infrared waves d) none

76) The purpose of _____ is to compensate for an attenuated signals loss. ( )
a. an antenna b. An Amplifier c. a transmitter d. an LED

77) The _____ measures the relative strengths of two signals or a signal at two different points ( )
a. Decibel b. power c. Shannon capacity d. signal-to-noise ratio

78) A loss of 3 dB is equivalent to _____ ( )
a. losing 3 times the power b. Losing Half The Power
c. gaining 3 times the power d. gaining half the power

79) What formula calculates the dB of a signal at points 1 and 2 (P1and P2) ( )
a. dB = P2/P1 b. dB = log10 (P2/P1)
c. dB = 10 log10 (P2/P1) d. dB = 10 (P2/P1)

80) The performance of transmission media is often measured by _____ ( )
a. throughput b. propagation speed c. propagation time d. All

81) The _____ of a sine wave is dependent on its frequency and its medium ( )
a. amplitude b. phase c. Wavelength d. any one

82) In the formula λ = c/f, c is the _____ ( )
a. wavelength b. frequency
c. speed of light in a vacuum d. Propagation Speed

83) The propagation time is _____ ( )
a. Distance / Propagation Speed b. propagation speed / distance
c. distance / decibel d. distance / wavelength

84) The _____ of a sine wave is dependent on its frequency and its medium ( )
a. amplitude b. phase c. Wavelength d. any one

85) The wavelength is the distance a simple signal can travel _____. ( )
a. in one second b. in one ms c. In One Period d. none

86) A geosynchronous orbit is 22,000 miles from earth at the _____. ( )
a. North Pole b. Tropic of Capricorn c. Equatorial Plane d. a and b

87) What is the advantage of using a satellite in microwave communication. ( )
a. The limitations imposed on distance by the earth's curvature is reduced.
b. Remote areas can be serviced.
c. Leasing time or frequencies is relatively inexpensive.
d. All of The Above

88) In a _____ a wide range of incoming waves is directed to a common point called the focus ( )

a. repeater b. satellite c. Parabolic Dish Antenna d. any one

89) The two highest radio communication bands use frequencies propagated mainly through _____ ( )

a. Space b. the ionosphere c. the troposphere d. the atmosphere

90) In 5 Watt VHF, channel allocated for S&T department is ( )

a. channel no. 06 b. channel no. 08

c. channel no. 10 d. channel no. 12

91) In 5 Watt VHF, channel allocated for Driver & Guard communication is ( )

a. channel no. 06 b. channel no. 08

c. channel no. 10 d. channel no. 12

92) In 5 Watt VHF, channel allocated for ART is ( )

a. channel no. 02 b. channel no. 04

c. channel no. 06 d. channel no. 08

93) In 5 Watt VHF, frequency allocated for S&T department is ( )

a. 159.650 MHZ b. 161.150 MHZ c. 162.100 MHZ d. 147.975 MHZ

94) In 5 Watt VHF, frequency allocated for driver & guard communication is ( )

a. 159.650 MHZ b. 161.150 MHZ c. 162.100 MHZ d. 147.975 MHZ

95) In 5 Watt VHF, frequency allocated for ART department is ( )

a. 159.650 MHZ b. 161.150 MHZ c. 162.100 MHZ d. 147.975 MHZ

96) Working voltage of 5 Watt VHF set is ( )

a. 5 V D.C b. 7.5 V D.C c. 12 V D.C d. 24 V D.C

97) Working voltage of 25 Watt VHF set is ( )

a. 5 V D.C b. 7.5 V D.C c. 12 V D.C d. 24 V D.C

98) Type of modulation used in VHF communication is ( )

a. AM b. FM c. QPSK d. all

99) Type of antenna used in 25Watt VHF set is ( )

a. Helical antenna b. GP antenna

c. Parabolic Antenna d. Yagi uda antenna

100) 5 Watt VHF Set supports a distance of ( )

a. 3.5 KM to 4 KM b. 5 KM to 10 KM c. 10 KM to 15 KM d. upto 50 KM

A N S W E R K E Y

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

ST-57 : ADVANCE IP NETWORK, NMS & SECURITY OF NETWORK

1) Which of the following services use TCP? ( )
   a) SMTP b) HTTP c) FTP d) all

2) What layer in the TCP/IP stack is equivalent to the Transport layer of the OSI model? ( )
   a) application b) host to host c) internet d) network access

3) Which of the following is private IP address? ( )
   a) 12.0.0.1 b) 168.172.19.39 c) 172.15.14.36 d) 192.168.24.43

4) Which of the following allows a router to respond to an ARP request that is intended for a remote host? ( )
   a) gateway DP b) reverse ARP c) proxy ARP d) inverse ARP

5) Which of the following services use UDP? ( )
   a) SMTP b) DHCP c) TFTP d) all

6) Which class of IP address provides a maximum of only 254 host addresses per network ID? ( )
   a) Class A b) Class B c) Class C d) Class D

7) If you use either Telnet or FTP, which is the highest layer you are using to transmit data? ( )
   a) Application b) Presentation c) Session d) Transport

8) Which of the following are layers in the TCP/IP model? ( )
   a) Application b) Transport c) Internet d) all

9) Which layer 4 protocol is used for a Telnet connection? ( )
   a) IP b) TCP c) TCP/IP d) UDP

10) What protocol is used to find the hardware address of a local device? ( )
    a) RARP b) ARP c) IP d) ICMP

11) Which of the following protocols uses both TCP and UDP? ( )
    a) FTP b) SMTP c) Telnet d) DNS

12) A network Router works at a __ layer of an OSI reference model. ( )
    a) Layer 1 b) Layer 2 c) Layer 3 d) Layer 4

13) A network Router device connects two or more ___ networks. ( )
    a) LAN b) WAN c) both a & b d) none

14) A network bridge device works at __ layer of OSI reference model. ( )
    a) Layer 1 b) Layer 2 c) Layer 3 d) Layer 4

15) A network switch works at __ layer of a OSI reference model. ( )
    a) Layer 1 b) Layer 2 c) Layer 3 d) Layer 4

16) Choose a WAN device from the below list. ( )
a) bridge b) router c) gateway d) all

17) Choose a LAN operating system from the below list. ( )
a) LAN server b) Novel Netware c) omni net d) all

18) The three main services used in a LAN are __. ( )
a) file server b) print server c) sharing internet d) all

19) The technologies used in a WAN network are ( )
a) SONET b) frame relay c) ATM d) all

20) The largest WAN existing on this earth is ( )
a) extranet b) Internet c) ARPANET d) SONET

21) CYBER Security is also referred as ( )
a) Network security b) IT security c) Computer security d) all

22) Elements of cyber security are ( )
a) Application security b) Network security c) information security d) all

23) These provide basic level security when user connects to the internet. ( )
a) Firewall b) Gateways c) modems d) both a and b

24) Any computer program that is designed to do things that are harmful to a computer user is called ( )
a) Malicious software b) System software
c) application software d) none

25) Key controls of cyber essentials are ( )
a) Secure configuration b) Patch management
c) malware protection d) all

26) Vulnerabilities of a network are ( )
a) Technology weaknesses b) Security weaknesses
c) configuration weaknesses d) all

27) Technology weakness of a network are ( )
a) TCP/IP Protocol weakness b) Operating system weakness
c) Network equipment weakness. d) All

28) Unsecured user accounts is what type of weakness ( )
a) Technology weaknesses b) configuration weaknesses
c) Security weaknesses d) none

29) lack of written security policy is what type of weakness ( )
a) Technology weaknesses b) configuration weaknesses
c) Security weaknesses d) none

30) threats which arise from individual or organization working outside of a company are ( )

a) structured threat b) unstructured threat
c) internal threat d) external threat

31) threats which come from hackers who are highly motivated and technically competent are ( )
a) structured threat b) unstructured threat
c) internal threat d) external threat

32) threats occur when someone has authorized access to the network with either an account on a server or physical access to the network are ( )
a) structured threat b) unstructured threat
c) internal threat d) external threat

33) threat arising mostly by individuals using hacking tools are ( )
a) structured threat b) unstructured threat
c) internal threat d) external threat

34) an individual who attempts to gain unauthorized access to network resources with malicious intent is called ( )
a) hacker b) phreaker c) white hat d) all

35) an individual who manipulates the phone network to cause it to perform a function that is normally not allowed is called ( )
a) hacker b) phreaker c) white hat d) all

36) An individual who sends large amount of unsolicited e-mail messages is called ( )
a) spammer b) phreaker c) white hat d) all

37) unauthorized discovery and mapping of system, services or vulnerabilities is called as ( )
a) reconnaissance b) access c) denial of service d) virus

38) Reconnaissance attack consists of ( )
a) Packet sniffers b) Port scan c) ping sweep d) all

39) Access attack consists of ( )
a) Password attack b) Trust exploitation c) port redirection d) all

40) Password attack can be implemented using ( )
a) Brute-force attack b) Trojan horse program c) IP Spoofing d) all

41) Denial of Service (DoS) threats are ( )
a) Ping of death b) E-mail bomb c) CPU hogging d) all

42) Which attack modifies the IP portion of the header ( )
a) Ping of death b) E-mail bomb c) CPU hogging d) all

43) A small piece of software program that can replicate itself and spread from one computer to another is called ( )
a) Virus b) Worms c) Trojan horses d) spyware

44) Flooding the internet with many copies of same messages is ( )
a) SPAM b) BOTNET c) Adware d) Spyware

45) Which malware creates backdoor on your computer and steals information and cause damage. ( )
a) Virus b) Worms c) Trojan horses d) spyware

46) Cryptography means ( )
a) Secret writing b) Secret reading c) public writing d) public reading

47) Which algorithm transforms plain text into cipher text ( )
a) Encryption b) Decryption c) both d) none

48) Which algorithm transforms cipher text into plain text ( )
a) Encryption b) Decryption c) both d) none

49) Cryptography deal with how many types of keys ( )
a) 3 b) 4 c) 5 d) 6

50) What type of key is shared in symmetric key cryptography ( )
a) Secret key b) Public key c) private key d) all

51) What type of key is shared in symmetric key cryptography ( )
a) Secret key b) Public key c) private key d) both b & c

52) Modern cipher are what oriented ( )
a) Bit oriented b) Byte oriented c) character oriented d) all

53) Traditional cipher are what oriented ( )
a) Bit oriented b) Byte oriented c) character oriented d) all

54) A digital signature provides what type of services ( )
a) Security transmission b) Message integrity
c) message authentication d) all

55) Digital signatures are issued by which authority ( )
a) NIC b) e-mudra c) IDRBT d) ALL

56) TCP/IP has how many layers ( )
a) 4 b) 5 c) 6 d) 7

57) OSI Layers has how many layers ( )
a) 4 b) 5 c) 6 d) 7

58) Third layer in TCP/IP is ( )
a) Internet Protocol (IP) b) Application layer
c) Physical layer d) Data layer

59) Fourth layer in OSI model is ( )
a) Transport layer b) Session layer c) Physical layer d) Data layer

60) MAC address abbreviation is ( )
a) Media Access Control b) Media Authority Centre
c) Media Access Code d) Media Authority Code

61) VPN abbreviation is ( )
a) Virtual private network b) Virtual public network
c) virtual personal network d) virtual presentation network

62) Which mode protects the network layer payload ( )
a) Transport mode b) Tunnel Mode c) Both d) none

63) In which mode IPSec protects entire IP packet including original header ( )
a) Transport mode b) Tunnel Mode c) Both d) none

64) Example of VPN is ( )
a) Team Viewer b) Skype c) Zoom d) all

65) SSL/TLS provide what type of services ( )
a) Fragmentation b) Compression c) message integrity d) framing

66) Computer networks security systems that protect computing systems and networks from unauthorized users is called ( )
a) Firewalls b) Servers c) Modems d) switches

67) Firewall provides security from which layers in OSI model ( )
a) Layer-1 to 3 b) Layer-3 to 5 c) layer-3 to 7 d) layer-5 to 7

68) Packet filter firewall is a part of which device ( )
a) Switch b) Router c) Modem d) pc

69) HTTP port number is ( )
a) 21 b) 23 c) 80 d) 25

70) UTM stands for ( )
a) Unified treat management b) Universal treat management
c) undefined transport module d) user transfer module

71) Firewall filter rules can be defined based on ( )
a) IP Address b) Ports c) domain names d) all

72) Wireless access points broadcast themselves using ( )
a) SSID b) IP address c) MAC address d) all

73) Default IP address of access point is ( )
a) 192.168.1.1 b) 192.168.0.1 c) 10.195.2.20 d) both a & b

74) Default user name of access point is ( )
a) Admin b) User c) Root d) all

75) DHCP stands for ( )
a) Dynamic host configuration protocol b) Dual host control protocol
c) dual host console protocol d) dynamic host console protocol

76) MAC address bit length is ( )
a) 8-bit b) 16-bit c) 48-bit d) 32-bit

77) Encryption protocols are ( )
a) WAP b) WEP c) WAP-2 d) all

78) End point protection software provides ( )
a) Anti-virus software b) Anti-malware software
c) device control d) all

79) Anti-virus software protects from ( )
a) Virus b) Worms c) Trojan horses d) all

80) Software that prevents unauthorized end point use of connected mobile devices and removable media ( )
a) Device control b) Application white-listing
c) anti-malware software d) anti-virus software

81) Software which is intended to stop inadvertent and intentional breaches of sensitive information ( )
a) End point data loss prevention b) Device control
c) application white-listing d) anti-malware software

82) Software which is geared towards controlling and protecting mobile devices( )
a) Enterprise mobile device management b) End point data loss prevention
c) application white-listing d) anti-malware software

83) When was information technology act enforced in india ( )
a) October 2000 b) November 2001 c) march 2000 d) October 2002

84) Which law deals with cyber crime and electronic commerce ( )
a) Information technology act-2000 b) Scientific technology act-2000
c) industrial technology act-2000 d) all

85) Information technology act contains how many sections ( )
a) 94 sections b) 66 sections c) 20 sections d) 50 sections

86) Section of IT ACT-2000 which deals with tampering with computer source documents is ( )
a) Section 65 b) Section 66 c) section 94 d) section 90

87) Section of IT ACT-2000 which deals with hacking with computer system is ( )
a) Section 65 b) Section 66 c) section 94 d) section 90

88) Section of IT ACT-2000 which deals with using password of another person( )
a) Section 66 C b) Section 66 c) section 94 d) section 90

89) Section of IT ACT-2000 which deals with ACT of cyber terrorism ( )
a) Section 65 b) Section 66 c) section 66 F d) section 90

90) Section of IT ACT-2000 which deals with failure of maintain records ( )
a) Section 65 b) Section 66 c) section 67 C d) section 90

91) Section of IT ACT-2000 which deals with attempt to access a protected system( )
a) Section 65 b) Section 66 c) section 70 d) section 90

92) Section of IT ACT-2000 which deals with cheating using computer resources ( )
a) Section 65 b) Section 66 c) section 66 D d) section 90

93) CERT-In stands for ( )
a) Indian computer emergency response team
b) Indian computer expert response team
c) Indian crime emergency response team
d) Indian crime expert research team

94) Under which section of the IT ACT CERT-In designated ( )
a) Section 70B b) Section 65 c) section 66 d) section 67

95) CERT-In will address all types of cyber security incidents related to ( )
a) Individual b) Government organization
c) private domain d) All

96) What is the use of ping command ? ( )
a) To test a device on the network is reachable
b) To test a hard disk fault
c) To test a bug in a application
d) To test a printer quality

97) What is the meaning of bandwidth in network ? ( )
a) Transmission capacity of a communication channel
b) Connected computers in a network
c) Class of IP used in network
d) None of the above

98) Network congestion occurs ( )
a) In case of traffic overloading b) When a system terminates
c) When connection between two nodes terminates d) None

99) Controlling access to a network by analyzing the incoming packets and outgoing packets is called ( )
a) IP filtering b) Data filtering c) Packet filtering d) Firewall filtering

100) What is the benefit of the networking? ( )
a) File sharing b) Ease of access to resources
c) Easier backup d) All of the above

ANSWERS KEY

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

ST-65: STORES, TENDERS & CONTRACTS

1) Function of an item remaining constant, If the cost decreases, Its value will ( )
   a) Increase b) Decrease
   c) Remains Constant d) May increase or decrease

2) In order to avoid any contingency, Stock at re-order level has to be ( )
   a) More than lead time requirement b) Less than lead time requirement
   c) Does not have any relation d) Equal to lead time requirement

3) Stores directorate in Railway Board is under ( )
   a) Member (Material Management) b) Member (Staff)
   c) Member (Elec) d) Financial Commissioner

4) Economic order quantity (EOQ) is determined by optimising between ( )
   a) Demand & Supply b) Ordering cost and carrying constant
   c) Budget and Service Level d) User and Accounts department

5) Forecasting accuracy increases if the planning period is ( )
   a) Shorter b) Longer c) Zero d) Infinity

6) Ambiguity in description and specification of material will have the following effect on lead time ( )
   a) It will increase b) It will decrease
   c) It will remain same d) None of the above

7) For a stores declared surplus by a depot, any returned stores are ( )
   a) Not to be accepted
   b) To be sent to any other depot where they are required
   c) are to be accepted but credit is given only as scrap value
   d) a high level committee is set up to take a decision.

8) In Indian Railways, Open tender is adopted when the purchase value is more than ( )
   a) 20 lakhs b) 40 lakhs c) 25 lakhs d) 10 lakhs

9) Indian Railways stores code is in how many volumes ( )
   a) 2 b) 3 c) 4 d) 5

10) The pre-check of the purchase order by accounts department is necessary if the value is more than ( )
   a) 80,000 b) 4,00,000 c) 5,00,000 d) 8,00,000

11) Special Limited Tender is one where ( )
   a) Number of firms is one
   b) Purchase value is high but limited tender is issued
   c) Purchase must be restricted from few firms
   d) Tender is issued by registered post

12) Which one of the system of codification is followed in Indian Railways for codification of stores items ( )

a) Fully significant coding system b) Semi significant coding system

c) Non significant coding system d) Color codification coding system

13) In Indian Railways, the case is to be dealt with the tender committee, when it is a case of ( )

a) Open tender b) Limited tender

c) Limited tender d) High value tender above 10 lakhs

14) When a firm is selected and tender enquiry is sent to them, it is a case of ( )

a) Open tender b) Limited tender

c) Bulletin tender d) Global tender

15) In Indian Railways, "A" category item represents what percentage of total consumption value ( )

a) 50% b) 60% c) 70% d) 90%

16) EOQ is the quantity at which ( )

a) Inventory carrying cost is maximum

b) Warehousing cost is minimum

c) Inventory carrying cost + ordering cost is maximum

d) Inventory carrying cost + ordering cost is minimum

17) In a rate contract _____ ( )

a) Quantity is not specified

b) Delivery period is not specified

c) Rough estimate of quantity is given

d) Quantity to be supplied is fixed

18) System of recoupment to be followed for recouping emergency stores is __ ( )

a) Maxima-Minima b) Periodic review

c) Base stock d) Combination of A & B above

19) Tenders are to be invited for purchase of 12000 numbers of chokes at Rs. 90/- each. In this case we invite ( )

a) Open tender b) Limited tender

c) Single tender d) Bulleten tender

20) In a PL No., the first two digits indicate _____ ( )

a) Main Group b) Sub Group

c) S.No of the item d) Check digit

21) In a P.L No, the subgroup to which an item belong to is represented by ( )

a) First two digits b) 3rd & 4th digits

c) 5 th & 6th digits d) 2nd & 3rd digits

22) An item was not issued to any user for the past 24 months, but it is likely to be issued in the next 22 months. This item will be classified as ( )
a) Dead surplus b) Custody stores
c) Movable surplus d) imprest stores

23) In "ABC" analysis, "A"category item represents ( )
a) Low consumption value item b) Important item
c) High annual consumption value item d) high cost item

24) Buffer stock limit depend on ____ ( )
a) ABC classification of the item
b) VDE classification of the item
c) Combination of ABC & VED classification of the item
d) Stock & Non Stock classification of the item

25) Buffer stock is provided _____ ( )
a) To meet unforeseen requirement
b) To supply items to other users
c) To make good, short fall due to theft, deterioration etc
d) To have items out of stock

26) Stock of an item with a section engineer is 500 Nos. Sanctioned imprest of the item is 1500 Nos. Quantity of the item to be recouped by him will be ( )
a) 1500 Nos b) 1000 Nos c) 500 Nos d) 2000 Nos

27) In V- E- D analysis, V stands for ( )
a) Vague items b) Vital items
c) Very important items d) Very costly items

28) Indication of value in the demand is necessary ( )
a) For posting in Liability/Posting register
b) To know the appropriate approving authority
c) For payment to the supplier
d) Combination of (a) & (b)

29) Item not required for the purpose for which it was originally purchased is known as ( )
a) Inactive item b) Scrap item
c) Over stock item d) Emergent stock item

30) For an item having annual consumption of 600 Nos, the maxima and minima are respectively 12 months and 8 months consumption. Physical stock of this item on different dates is as follows. This item should be recouped on _____ ( )
a) 01.01.19 b) 10.02.19 c) 01.03.19 d) 01.04.19

31) An item having regular turnover caused by constant demand will be known as( )
a) Ordinary stock item b) Emergent stock item
c) Regular item d) Non stock item

32) Inactive items are those stock items, stock of which ( )
a) Is unservisable
b) More than 3 months old
c) Not been issued to any user for the last 12 months
d) Is more than the requirement for the next 24 months

33) Principal head of stores department in a Zonal Railway is ( )
a) Chief Material Manager
b) Controller of Stores
c) Principal Chief Material Manager
d) Chief Controller of Stores & Purchases

34) Representatives of the tenderers are allowed to be present at the time of opening of ( )
a) Open tender only b) Single tender
c) Bulletin tender d) Open or special limited tender

35) Processing of tender case after opening of tenders depends on ( )
a) Estimated value of purchase b) Value of the case as per highest offer
c) Value of the case as per lowest offer d) None of the above

36) Only one offer received in respect of limited/open tender is known as ( )
a) Single tender b) PAC Offer
c) Single offer d) late offer

37) Proprietary article certificate is issued for an item required to be purchased from ( )
a) Single firm only b) RDSO approved firms only
c) Approved firm only d) None of the above

38) Items not required by the user can be returned on ( )
a) Advice note for returned stores b) Requisition
c) Minus issue note d) Indent

39) Advice note for returned stores is written in the form ( )
a) S1539 b) S1605 c) S1622 d) None of the above

ANSWERS KEY

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

RAJBASHA

1) What is the Official Language of Union of India? ( )
   a) English b) Urdu
   c) Telugu d) Hindi in Devanagari Script

2) As per Article 343(1) of the constitution when Hindi became the official language of the Union of India ( )
   a) 26.01.1963 b) 26.01.1964 c) 26.01.1965 d) 26.01.1966

3) When the Constitution was adopted, how many languages were included initially in the Eighth Schedule ( )
   a) 11 b) 14 c) 15 d) 16

4) When was Official Language Act 1963 passed ( )
   a) 10.05.1963 b) 10.04.1963 c) 10.065.1963 d) 11.05.1963

5) When did the section 3(3) of the Official Language Act take effect ( )
   a) 25 .01.1963 b) 26.01.1963 c) 26.01.1965 d) 14.01.1965

6) When was the official Language Act, 1963 was amended ( )
   a) 1965 b) 1966 c) 1967 d) 1968

7) When was Official Languages Rules passed ( )
   a) 1963 b) 1964 c) 1973 d) 1976

8) When was Official Languages Rules amended ( )
   a) 1987 b) 1988 c) 1963 d) 1965

9) Into how many Regions Indian states have been classified, according to official Languages Rules ( )
   a) 2 b) 3 c) 4 d) 5

10) What are all the 3 Regions as classified under Official Languages Rules ( )
   a) A & B b) B & C c) A & C d) A, B & C

11) When “Hindi Day” is celebrated every year? ( )
   a) 14th sep b) 2nd oct c) 14th oct d) 2nd sep

12) States:(i) Uttar Pradesh (ii) Uttaranchal (iii) Bihar (iv) Jharkhand (v) Haryana (vi) Himachal Pradesh (vii) Madhya Pradesh (viii) Chhattisgarh (ix) Rajasthan, Union Territory: (i) Andaman & Nicobar Island, Group NCT: (i) Delhi…falls under Region ( )
   a) A & B b) B & C c) A d) B

13) States: (i) Maharashtra (ii) Gujarat (iii) Punjab
Union Territory: (i) Chandigarh (ii) Daman and Diu (iii) Dadar and Nagar Haveli … falls under Region ( )
a) A & B b) B & C c) A d) B

14) States: (i) Karnataka (ii) Tamilnadu (iii) Kerala (iv) Andhra Pradesh (v) Telangana (vi) Odisha (vii) West Bengal (viii) Goa (ix) Jammu and Kashmir (x) Assam (xi) Nagaland (xii) Meghalaya (xiii) Arunachal Pradesh (xiv) Sikkim (xv) Tripura (xvi) Mizoram (xvii) Manipur, Union Territory: (i) Pondicherry (ii) Lakshadweep…falls under Region ( )
a) B b) C c) A & B d) B & C

15) Which Ministry takes important decisions pertaining to Official Language ( )
a) Railways b) Home
c) Human Resource d) Culture

16) In which year the post of Hindi Assistant was created in Railway Board in compliance of President's order ( )
a) 1947 b) 1950 c) 1952 d) 1953

17) Who was the Railway Minister when the Hindi Translation of Railway Budget was prepared in the year 1956 ( )
a) Shri Lal Bahadur Shastri b) Shri Jawharlal Nehru
c) Smt Indira Gandhi d) Shri Gulzarilal Nanda

18) Who is the Chairman of Central Hindi Samiti (Committee) ( )
a) President b) Home minister
c) External affairs minister d) Prime Minister

19) The Central Hindi Samiti (Committee) comes under which Ministry ( )
a) External affairs b) Railways c) Home d) Culture

20) After Independence, initially which Ministry was entrusted the duty of training Central Government Staff in Hindi ( )
a) external affairs b) Education c) home d) Culture

21) How many members are there in the Parliamentary Committee on Official Language ( )
a) 10 b) 20 c) 30 d) 35

22) How many Lok Sabha members are there in the Parliamentary Committee on Official Language ( )

a) 10 b) 20 c) 30 d) 32

23) How many Rajya Sabha members are there in the Parliamentary Committee on Official Language ( )

a) 5 b) 7 c) 8 d) 10

24) At present, how many Sub-Committees are there in the Parliamentary Committee on Official Language ( )

a) 3 b) 7 c) 8 d) 10

25) Which Sub-Committee of Parliamentary Committee on Official Language inspects the offices of Railway Ministry ( )

a) 1st b) 2nd c) 3rd d) none

26) What is the periodicity of the meetings of Official Language Implementation Committee is once in ( )

a) 1 b) 2 c) 3 d) 6

27) Which Ministry prepares Annual Programs on Official Language ( )

a) Railways b) Home c) Defense d) Broad casting

28) The Question Papers of departmental examination must be provided in which language ( )

a) Hindi b) Regional c) no such norms d) Hindi & English

29) How many Hindi courses are prescribed for Central Govt. employees ( )

a) Prabodh b) Praveen c) Pragya and Parangat d) All

30) Which is the elementary Hindi course prescribed for Central Govt. employees( )

a) Pragya b) Praveen c) Prabodh d) Parangat

31) Which is the final Hindi course prescribed for Central Govt. employees ( )

a) Pragya b) Praveen c) Prabodh d) Parangat

32) What are all the training facilities available to a Central Govt. Employee to get trained in these Hindi courses ( )

a) All b) Regular c) Intensive d) Correspondence & Private

33) What is the duration of each Hindi course? (Except Intensive Training) ( )

a) 2 months b) 3 months c) 5 months d) 6 months

34) How many times Hindi examinations (except Intensive Training) are conducted in a year ( )

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

35) What are all the months in which Hindi examinations are usually conducted ( )

a) April & September b) May & October

c) May & November d) June & December

36) In how many working days Prabodh course is conducted under Intensive Training ( )

a) 20 b) 25 c) 30 d) 35

37) In how many Working days Praveen course is conducted under Intensive Training ( )

a) 20 b) 25 c) 30 d) 35

38) In how many working days Pragya course is conducted under Intensive Training ( )

a) 7 b) 10 c) 15 d) 20

39) When will an employee become eligible for Cash Award after passing Hindi Examinations ( )

a) get above 35% in written b) get above 45% in written

c) get above 55% in written d) get above 60% in written

40) What is the amount of Cash Award for Passing Hindi Typing with 90% or more but less than 95% of marks ( )

a) Rs 400 b)) Rs 600 c) Rs 800 d) Rs 1200

41) What are all the incentives given for passing Hindi Examinations ( )

a) Cash Award b) Lumpsum Award & Personal

c) a & b d) None

42) What is the amount of Cash Award for Passing Prabodh with 55% or more but less than 60% of marks ( )

a) Rs 400 b) Rs 450 c) Rs 500 d) Rs 550

43) What is the amount of Cash Award for Passing Prabodh with 60% or more but less than 70% of marks ( )

a) Rs 750 b) Rs 800 c) Rs 850 d) Rs 900

44) What is the amount of Cash Award for Passing Prabodh with 70% or more marks ( )

a) Rs 1200 b) Rs 1400 c) Rs 1600 d) Rs 1800

45) What is the amount of Cash Award for Passing Praveen with 55% or more but less than 60% of marks ( )

a) Rs 200 b) Rs 400 c) Rs 600 d) Rs 800

46) What is the amount of Cash Award for Passing Praveen with 60% or more but less than 70% of marks ( )

a) Rs 1200 b) Rs 1300 c) Rs 1500 d) Rs 1700

47) What is the amount of Cash Award for Passing Praveen with 70% or more marks ( )

a) Rs 1200 b) Rs 1400 c) Rs 1600 d) Rs 1800

48) What is the amount of Cash Award for Passing Pragya with 55% or more but less than 60% of marks ( )

a) Rs 400 b) Rs 600 c) Rs 800 d) Rs 1200

49) What is the amount of Cash Award for Passing Pragya with 60% or more but less than 70% of marks ( )

a) Rs 1400 b) Rs 1600 c) Rs 1800 d) Rs 2400

50) What is the amount of Cash Award for Passing Pragya with 70% or more marks ( )

a) Rs 2400 b) Rs 1800 c) Rs 1600 d) Rs 1200

ANSWERS KEY

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