SOUTH CENTRAL RAILWAY

Headquarters Office,
Personnel Branch,
Secunderabad.

Dt.07.10.2025.

No.SCR/P-HQ 210(a)/JE/Telecom/Syllabus & Question bank

Sr.DPO/SC, HYB, GTL, GNT, BZA & NED (e-office No.

Sub:-Administrative reforms in Departmental selections- Standardization and Unification of Syllabus-Question Bank and Syllabus of JE/Telecom Promotional & LDCE Quota.

Ref:-Railway Board Letter No. (NG)I/2025/PM1/3 Dt.17.06.2025

****

In terms of Railway board instructions contained in Letter dated.17.06.2025, the standardized and unified syllabus along with the sample Question bank for the post of JE/Telecom Promotional & LDCE Quota approved by PCSTE is enclosed herewith for further necessary action.

Hence all the divisions are hereby advised to ensure common syllabus may be enclosed along with the notification without any deviation.

Syllabus and sample question bank is available in the official website of SCR.

Encl:- As above.

(D.Malathi)
Dy.CPO/M&EL
For Principal Chief Personnel Officer/SC

Copy to:- Sr.DSTE/ SC, HYB, GTL, GNT, BZA & NED.
Dy.CPO/Rectt & Chairman/ RRC for kind information please
Dy.CPO/HQ is requested to place on the official website please.

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दक्षिण मध्यरेलवे
South Central Railway

प्रमुख मुख्य सिगनल एवं दूरसंचार इंजीनियर कार्यालय
Office of the Principal Chief Signal & Telecom Engineer
7 वाँ तल, रेल निलयम / 7th Floor, Rail Nilayam
सिकंदराबाद / Secunderabad -500003

e-No. 156622 Date: 03/10/2025

PCPO/SC

(Kind Attn: APO/Cadre)

Sub: Selections – CBT mode in departmental promotions.
Ref : PCSTE/SC's Lr.No.SCR-HQOSNT(ESTB)/2/2022(e-156622)

*****

Reference to the above, the syllabus and question bank for LDCE & Promotional quota of JE/Tele is forwarded herewith duly signed by Committee Members for kind information please.

This issues with the approval of PCSTE.

Encl: Syllabus & Question Bank(106 pages)

V Balasubramanyam

(V.Balasubramanyam)
ASTE/T/HQ
for PCSTE

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दक्षिण मध्य रेलवे
South Central Railway

आज़ादी का अमृत महोत्सव

मरिप्र का कार्यालय Office of the DRM
सि व दूरसंचार शाखा S & T Branch,

No. B/SG. B/Sr.DSTE/BZA/Misc. Dated: 29/09/2025.

PCSTE/SC

Sub: Selections – CBT mode in departmental promotions.

Ref: PCSTE/SC's Lr. No. SCR-HQ0SNT(ESTB)/2/2022/e-156622, dtd. 26/08/25

****

Reference to the above, the syllabus and question bank for LDCE & Promotional quota of JE/Tele signed by Committee Members is submitted for kind information please.

Encl: Syllabus and question bank (106 pages)

SATHISH SANKAR PAMARTHI
Digitally signed by SATHISH SANKAR PAMARTHI
Date: 2025.09.29 09:02:57 +05'30'

(पी. सतीश शंकर / P. Sathish Sankar)

वमंसिवदूसंइं/समन्वय/विजयवाडा/Sr.DSTE/BZA

Copy to: Dy.CSTE/HQ/SC for information pls.

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दक्षिण मध्यरेलवे
South Central Railway

प्रमुख मुख्य सिगनल एवं दूरसंचार इंजीनियर कार्यालय
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7 वाँ तल, रेल निलयम / 7th Floor, Rail Nilayam
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Encl: Syllabus & Question Bank(106 pages)

V Balasubramanyam

(V.Balasubramanyam)
ASTE/T/HQ
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1.Organisation & Duties

1)The administrative and professional head of S&T department in zone (a)
a) PCSTE b) GM c) DRM d) Sr. DSTE

2) The administrative and professional head of S&T department in division (b)
a) PCSTE b) Sr.DSTE c) DRM d) ADSTE

3) The inspection schedule of telecom assents for Junior Engineer(a)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

4) The inspection schedule of telecom assents for Senior Section Engineer (b)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

5) The inspection schedule of telecom assents for Additional Divisional Signal & Telecom Engineer (d)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

6) Maintenance of Stores & Establishment matters are handled by (b)
a) Sr. DSTE b) SSE In charge c)JE d) ADSTE

7)Periodical testing of earth resistance to be done for every (c)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

8) Periodical testing of Quad cable loop resistance to be done for every (a)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

9) Periodical testing of Quad cable insulation resistance to be done for every (d)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

10) Periodical testing of Quad cable transmission loss to be done for every (a)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

11) Periodical testing of OTDR for Optical Fiber cable to be done by JE for every (b)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

12)Periodical testing of OTDR for Optical Fiber cable to be done by SSE Incharge for every (c)
a)Monthly b) Quarterly c)Once in 6 months d)Annually

13) The full form of PCSTE (c)
a) Professional Chief Signal & Telecommunication Engineer
b) Principal Central Signal & Telecommunication Engineer
c)Principal Chief Signal & Telecommunication Engineer
d)Primary Chief Signal & Telecommunication Engineer

14) The full form of CCE (b)
a) Central Communication Engineer
b) Chief Communication Engineer
c) Chief Controlling Engineer
d)Central Controlling Engineer

2.Communication Requirements for New station

1)In Electrified stations, UP & DN AT supply to be extended to telecom equipment through separate fuse /MCB of minimum capacity (a)

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

2) In Non-Electrified stations, the following telecom equipment may not be available (d)
a)TPC b) EC c) RC d)Both A & C e) Both B &C (f) None

3)Telecom power supply at a stations should be monitored by head quarters using (a)

a) PDMUX NMS b) Telephone Exchange c) Voice logger d) All of the above

4)DC voltage required for major telecom equipment's like exchange, STM, PDMUX etc(b)

a) +48V b) -48 V c) +110V d) -110V

5)AC Supply of 230V is converted to -48V DC required for telecommunication equipment by using (c)

a)DC-AC Converter b) DC-DC Converter c) SMR d)Inverter

6)The communication arrangements provided at a new station will be documented in (a)

a) SWR b)SIP c) G&SR d)ESP

7)The following wireless telecommunication equipment may not be compulsorily provided at new station(c)

a) VHF Set b)GPS Clock c) Wi-fi router d)FCT Phone

8) In non-electrified stations, which of the power supply arrangements may not be available for Telecom equipment's (c)

a) Local AC supply b) DC supply c) AT supply d)DG supply

9)Proper earthing to be required for the following telecom equipments in electrified stations(d)

a) Copper cable b)25W VHF Set c)Data logger d)All of the above

10)To extend RC/TPC from station to FP/SSP's, which of the following cable can be laid (c)

a) Quad cable b) Optical Fiber Cable c)Botha&bd)None of the above

11) Full form of SWR (d)

a) Station Working Register
b) Signal Working Rules
c) Signal Working Register
d) Station Working Rules

12)Public addressing system may not be available at following places in a station (c)

a) Waiting halls
b) Station platforms
c) SM room
d) Circulating room

13)VSS Cameras monitoring will be done at which place in a station (b)

a) SM office
b) RPF office
c) Telecom office
d) Commercial office

14)In a block section from Station A to station B, BPAC communication in MSDAC, HASSDAC systems can be provided using media(d)

a) OFC b)6 Quad cable c)PIJF cable d)both a & b

15)In a station from relay room to axle counter LB, BPAC communication in MSDAC, HASSDAC systems can be provided using media (b)

a) OFC b)6 Quad cable c)PIJF cable d)both a & b

16)How many conductors of quad cable can be used for one DP of MSDAC from relay room to axle counter location box (b)

a) 2 b) 4 c)1 d)8

17)How many conductors of quad cable can be used for one system of HASSDAC from relay room to axle counter location box for communication (b)

a) 2 b) 4 c)1 d)8

18) Full form of MSDAC (b)

a)Multi Selection Digital Axle Counter b)Multi Section Digital Axle counter
c)Media Selection Digital Axle Counter d)Many Section Digital Axle Counter

19)Full form of HASSDAC (d)

a)High Availability Signal Section Digital Axle Counter
b)Heavy Availability Single Section Digital Axle Counter
c)High Access Signal Section Digital Axle Counter
d) High Availability Single Section Digital Axle Counter

20)OFC terminations in FDMS will not be done using which type of connectors for signalling applications (b)

a) FC b) LC c)SC d)ST

21)Dual cable in a section from Station A to station B for MSDAC, HASSDAC applications is suggested to be of (b)

a) OFC and 6 Quad b) Both OFC c)Both 6 Quad d)None of the above

22)Which type of OFC patch cords are suggested to be used for signalling applications (a)

a) Armoured b)Unarmoured c) Both d)None of them

23)A block section with 27KM distance, the diameter of quad cable to be used is (b)

a) 0.9mm b)1.4mm c)0.5mm d) 0.65mm

24)A block section with 8KM distance, the diameter of quad cable to be used is (a)

a) 0.9mm b)1.4mm c)0.5mm d) 0.65mm

25)In a block section from Station A to Station B, redundant cables is suggested to be laid in (a)

a) one in UP & the other in DN direction
b) both in either UP or DN directions but in different trench
c) both in either UP or DN directions but in same trench
d) No redundant cable path is required

26)In MSDAC, each system will be provided with dual OFC TX-RX pairs of (b)

a) Both TX from one 24F OFC and both RX from other 24F OFC
b) One system TX & RX pair from one 24F OFC and other system TX & RX pair from other 24F OFC
c) Both systems TX & RX pairs from same 24F OFC
d) Dual OFC TX-RX pairs is not required

27)Full form of OEM (b)

a) Official Equipment Material
b) Original Equipment Manufacturer
c) Official Engineering Manufacturer
d) Original Engineering Material

3.Train Traffic Control Systems

1) In RE area Emergency Control HQ equipment is provided with _____ (**c**)
a) Section Controller b) Deputy Chief Controller
c) Traction Power Controller d) Traction Loco Controller

2) Remote control works on _____ principle. (b)
a) WPA b) SCADA c) PTCC d) DTMF

3) Role of S&T in Control working is to _____. (d)
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. (b)
a) TPC b) TLC c) RC d) All

5) Efficient utilization of Engine power falls under _____ control. (a)
a) TLC b) Dy. CTO c) TPC d) All

6) Power Controller in electrified sections is called as _____Controller. (c)
a) Section b) TLC c) TPC d) All

7) Trains movements information of a particular day can be had from _____ (b)
a) Test room b) Control Chart c) Reservation chart d) All

8) Railway control communication circuits are of _____ type circuits. (c)
a) Point to point b) Party to line c) Omnibus d) All

9) Type of signaling system suitable for control circuits is _____. (d)
a) E & M b) RD c) Loop d) DTMF

10) Emergency control sockets are provided on rail posts at ___ km intervals. (a)
a) 1 b) 2 c) 3 d) 4

11) Name any one control circuit used only in RE sections_____ control. (c)
a) Section b) Emergency c) Traction Power d) Deputy

12) No. of tones used in DTMF system. _____. (b)
a) 4 b) 8 c) 12 d) 16

13) Maximum no. of way station codes available in DTMF system. (c)
a) 97 b) 98 c) 99 d) 100

14) SOS code is sent by a _____ to test room equipment in case of fault. (c)
a) Test room equipment b) Controller's equipment
c) Way station equipment d) All

15) In addition to speech unit a DTMF _____ is also needed at control office. (b)
a) Decoder b) Encoder c) Multiplexer d) All

16) In addition to Control telephone a DTMF___ is also needed at way stations. (a)
a) Decoder b) Encoder c) Multiplexer d) All

17) A speech conversion unit is used for _____ (c)
a) Level matching b) Impedance matching
c) 4 wire to 2 wire conversion d) All

18) DTMF signal normal output level in Control office equipment is _____. (d)
a) 0 dBm b) 0 to 20 dBm c) 20 to 0 dBm d) 0 to -7 dBm

19) Equipment used in Railtel's OFC control communication system are _____ (c)
a)STM 1 b) PD Mux c) Both a & b d)None of the above

20) LTE in CCEO can handle_____ no. of 2-wire telephones. (d)
a) 40 b) 80 c) 99 d) 20

21) Maximum ____ no. of control telephones can be connected to one MTWE. (b)
a) 2 b) 4 c) 6 d) 8

22) Operating voltage required for CCEO system is _____. (d)
a) 12V b) 24V c) 36V d) 48V

23) Dialling facility is not available in telephones connected to _____ equipment of CCEO. (c)
a) CRE b) TRE c) LTE d) MTWE

24) Telephones having dialling facility are known as _____ telephones in CCEO (d)
a) Control b) Magneto c) Auto d) TDCT

25) 2-wire telephone lines connected to LTE can be extended up to a distance of _____. (a)
a)1 Km b) 2 Km c) 4 Km d) 8 Km

26) 2-wire telephone lines connected to MTWE can be extended up to a distance of _____. (b)
a)1 Km b) 2 Km c) 4 Km d) 8 Km

27) TWA is used where _____. (c)
a) More than 4 control telephones are to be provided b) RPE is provided
c) Both a & b d) None

28) Interconnection between section control and Dy. Control is called _____ (b)
a) Transposition b) Patching c) Crossing d) None

29) Separate equipment for radio patching is not needed in _____ system. (b)
a) Impulse system b) DTMF c) Both a & b d) None

30) The Radio patch connection is taken from Buffer ____ in Indisco equipment. (a)
a) 2 b) 1 c) Both a & b d) None

31) There is no _____ facility in a Control Telephones provided at way stations. (c)
a) Patching b) Speech c) Dialling d) None

32) A universal control telephone has a _____ in addition to control phone. (b)
a) DTMF Encoder b) DTMF Decoder c) Both a & b d) None

33) A portable EC telephone is used by _____ (c)
a) Guard b) Loco Pilot c) Both a & b d) None

34) A 2-wire 12-way telephone consists of one master and _____ slave phones. (b)
a) 5 b) 10 c) 12 d) 15

35) Electronic LC gate phone has one master and _____ slave phones. (c)
a) 2 b) 4 c) 6 d) 8

36) Master phone of Electronic LC gate system operates on _____ DC supply. (b)
a) 3 V b) 12V c) 24V d) 48V

37) IWCCE can replace all _____ telephones used at a way station. (a)
a) Control b) Auto c) LC gate d) All

38) _____ number of control circuits can be connected to IWCCE. (d)
a) 2 b) 4 c) 6 d) 8

39) _____ number of control telephones can be connected to IWCCE. (c)
a) 6 b) 24 c) 30 d) 12

40) In Indian Railway, for control communication, Voice logger is provided in _____. (b)
a) Control Office b) Test room c) Way stations d) All

41) Minimum no. of speech channels recorded by one voice logger unit is _____(c)
a) 2 b) 3 c) 4 d) 6

42) SCADA system is operating through _____ control circuit. (d)
a) Section b) Traction Power c) Traction Loco d) Remote

43) Auto dialing system is used in emergencies for providing _____ Phone facility at track side. (d)
a) Control b) Auto c) BSNL d) All

44) _____ sound is the result of an earth fault on overhead circuits. (c)
a) Whistling b) Hauling c) Crackling d) Noise

45) On UG cable circuit transmission loss test periodicity is _____. (b)
a) Weekly b) Monthly c) Bi Monthly d) Half yearly

46) Value of Psophometric noise level should be below _____ (c)
a) 5mV b) 10mV c) 2mV d) 8mV

47) If there is no Trans from controller one of the likely cause can be _____. (d)
a) Amplifier failure b) Power supply failure
c) Input from Mic not available d) Any one of the above

48) If there no ringing at a way station one of the likely cause can be _____. (d)
a) Faulty DTMF decoder b) Wrong code setting
c) Rx amplifier failure d) Any one of the above

49) _____ can result in both way communication loss with the controller. (d)
a) Equipment failure b) DC power supply failure
c) Cable failure d) Any one of the above

50) There is no communication beyond an intermediate VF repeater. The cause may be _____. (d)
a) Repeater amplifier failure b) Repeater power supply failure
c) Cable failure d) Any one of the above

51) Computer connectivity to the Voice logger is through ____ port. (a)
a) Ethernet b) serial c) USB d) Any one

52) The DC power supply required for the operation of Voice logger is _____. (a)
a) 12V b) 24V c) 36V d) 48V
53) POH (Phone off hook) mode is used for recording voice over telephone and VOX mode is used for recording voice over control circuits. (a)
a) POH & VOX b) POH & NON-VOX
c) ON HOOK & VOX d) ON HOOK & NON-VOX

54) The Voice logger used in control communication has a built in hard disc of _____ capacity. (c)
a) 2 GB b) 16 GB c) 40 GB d) 80 GB

55) Recordings are saved automatically in HDD of logger as well as in the HDD of ___ simultaneously. (a)
a) PC b) Laptop c) Cell Phone d) All

56) __ connectors are used to connect control voice channels to the Voice logger**(d)**
a) RJ-11 b) RJ-45 c) Both a & b **d) None**

57) The Train management system provides 'On Line' information of train movements to the various railway agencies. (a)
a) On Line b) Off Line c) Both a & b d) None

58) ____ 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)
a) Display Boards b) NMS c) Control Chart d) None

59) _____ Video display unit enables the master in optimum planning of train movements in his jurisdiction. (a)
a) Online b) Off line c) Both a & b d) None

60) Train indication boards, Video display units and Audio announcement systems work on _____ basis to avoid wrong display and announcements. (b)
a) Off line b) On line c) Real time d) None

61) The Tx and Rx frequency used for Mobile train communication between trains and Control centre is _____. (c)
a) 2.4 GHz b) 165.5 MHz c) 338-355 MHz d) 1 KHz

62) Mobile communication in _____ guides the driving crew as well as to inform the travelling public during traffic dislocations. (a)
a) TMS b) NMS c) PRS d) None

63) Significant impedance mismatch _____ voice quality due to the connecting of way station equipment's to the same point. (a)
a) degrades b) upgrades c) no change d) none

64) Gateways shall be used for connecting TCCS with and (d)
a) Railway Telephone exchanges b) emergency communication circuit
c) Analog control telephones d) All

65) In VOIP based TCCS, ____ Phone shall be provided to way side station masters and other users of control circuits. (a)
a) IP b) Analog c) Digital d) none

66) Remote configuration and real time performance monitoring of TCCS shall be done by centralized _____. (b)
a) Control b) NMS c) Server d) None

67) The communication server shall deny any intruder to access TCCS using __.(a)
a) False Identity b) Wrong password c) Wrong User name d) None

68) Since ____ is internationally accepted technology, future improvement in the system shall also benefit the TCCS. (a)
a) VOIP b) IVRS c) NMS d) None

69) Min. dB level required for DTMF decoder for ringing is (a)
a) -20 dB b) -10 dB c) + 20 dB d) + 10 dB

70)_____nos. of frequencies in DTMF signalling. **(a)**
a) 2 b) 3 c) 4 d) **8**

71)_____is used to protect the DTMF decoder from over current. **(b)**
a) MOV b) Fuse c) Relay d) DIODE

72)_____numbers of dip switch is used for setting a way station code in a decoder. **(a)**
a) 2 b) 3 c) 8 d) 4

73)_____Transformer is used to minimize the induced voltage in RE cable. **(a)**
a) Isolation b) VF transformer c) Derivation d) Step up

74)_____Hz signals are transmitted when 2 is pressed in DTMF encoder. **(b)**
a) 1442 , 770 b) 697,1336 c) 852,941 d) 941,770

75)In RE area _____ control is used for controlling traction power. **(a)**
a) RC b) TPC c) EC d) Dy. Control

76)RC control in RE area uses _____ method for working. **(b)**
a) SLIC b) SCADA c) Originating d) Answering

77)Cable huts are provided in _____area. **(b)**
a)Non-RE area b) RE Area c) Hill area d) Rock area

78)_____amplifier is provided to have conversation between wayside stations. **(a)**
a) Leak b) Class A c) Class B d) Class C

79)Working current of DTMF HQRS equipment is _____ mA. **(c)**
a) 16ma b) 40ma c) 60ma d) 100ma

80)The cable huts are provided at every _____Km in RE **Cable** **(c)**
a) 8.5 kms b) 40 kms c) 17kms d) 1 kms

81)We can connect maximum_____ number of stations using DTMF signalling. **(a)**
a) 99 b) 100 c) 120 d) 50

82)The periodic test of EMC is done every _____days. **(a)**
a) 15 b) 30 c) 7 d) 20

83)Block circuits in RE area works on_____.**(b)**
a) Paper Quad b) PET quad c) Jelly filled cable d) Switch board cable

84)Number of cables pairs required for 4 wire E&M working are _____.**(c)**
a) 1 b) 2 c) 3 d) 4

85)For converting 2 wire to 4 wire the following is required_____.**(b)**

a) Amplifier b) Hybrid c) Rectifier d) Inverter

86)In EC socket the transformer used have the impedance ratio_____.**(a)**

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

87)The insertion loss of way station control telephone is_____.**(a)**

a) 0.5dB b) 1dB c) 2dB d) 1.5dB

88)In RE area Emergency Control HQ equipment is provided with _____. **(c)**

a) Section Controller
b) Deputy Chief Controller
c) Traction Power Controller
d) Traction Loco Controller

89)Remote control works on _____ principle. **(b)**

a) WPA
b) SCADA
c) PTCC
d) DTMF

90)Name any one control circuit used only in RE sections. _____**(c)d**

a.)Section Control
c).Emergency Control
b)Traction Power Control
d)All

91)The Radio patch connection is taken from Buffer _in Indisco equipment. **(a)**

a) 2
b) 1
c) Both A & B
d) None of the above

92)_____can result in both way communication loss with the controller. **(d)**

a) Equipment failure
b) DC power supply failure
c) Cable failure
d) Any one of the above

93)Storage capacity of voicelogger? **(c)**

a) 10GB
b) 30GB
c) 40GB
d) 50GB

94)Voicelogger is suggested to connect to Headquarters for monitoring purpose through **(a)**

a)Ethernet
b)E1
c)64Kbps BSNL channel
d)Either a or b

95)Which pins of EC sockets are used for extending communication during disaster or emergency situations through Autophone **(b) (c)**

a)1&6
b)2&5
c)3&4
d)EC socket can't be used

96)Which of the following control communication is not provided at SM room? **(c)**

A) TC b)TPCc)RCd)Dy.TC

97)How many 4 wire controls can be extended to midsection during disaster using one 8 E&M card of MAPLE Equipment **(a)**

a) 8 b)4 c)10 d)2

98)Which of the following is used as emergency wireless communication by station master? **(a)**

a) 25W VHF Set & 5W Walkie-Talkie sets
b)Auto Telephone
c) Wifi
d) None of the above

99)LC Gate phone to LC Gate phone, communication is possible in which type of DTMF telephone? **(a)b**

a) Electronic Master-Slave LC Gatephone
b) 12-Wire 2 way DTMF LC Gatephone
c) Both a&b
d) None

100)In Master-Slave LC Gatephone, slave telephone works with power supply of **(b)**

a) External 24V DC
b) Line 24V DC
c) Line 12V DC
d) None

4.Block, Control,Emergency and Signalling applications Extension over Quad and OFC

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

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

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

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

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

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

7) 1.4 mm dia conductor 4/6 quad cable is used when the distance between the block stations is more than _____ **(d) 12 km as per telecom Manual Desirable**
a) 30 kms b) 10 kms c) 15 kms d) 25 kms

8) The insulation resistance between each conductor in a quad shall not be less than _____ per kilometer**(b)**
a) 200MΩ b) 100MΩ c) 400MΩ d) 500MΩ

9) Purpose of Poly Aluminium sheath in a quad cable is_____ **(b)**
a) To prevent the entry of moisture b) To provide screening
c) To protect the conductors from damage d) To reduce induced voltages

10) The colours of conductors of quad no 5 in 6 quad cable is_____ **(c)**
a) Black, white, red, slate b) Blue, white, red, slate
c) Yellow, white, red, slate d) Green, white, red, slate

11) The resistance of conductor in a quad cable is_____ **(a)**
a) 28Ω/km b) 56Ω/km c) 58Ω/km d) 26Ω/km

12) The characteristic impedance of a 6 quad cable is_____ **(d)**
a) 600Ω b) 1120Ω c) 56Ω d) 470Ω

13) Induced voltages in 6 quad cable is eliminated by earthing **(c)**
a) GI armour b) Poly. Al. sheath c) Al. screening wires d) Aluminium foil

14) The impedance ratio of matching transformer used for block circuits in unloaded quad cable is _____ **(c)**
a) 470:600 Ω b) 1:2 Ω c) 470:1120 Ω d) 1120: 600 Ω

15) The value of loading coil connected in each limb of a 6 quad cable is___ **(d)**
a) 118mH b) 88mH c) 44mH d) 59mH

16) Periodicity of conduction test carried out on a quad cable is_____ **(b)**
a) Weekly b) Monthly c) Quarterly d) Yearly

17) Periodicity of insulation resistance test carried out on a quad cable is_____ **(d)**
a) Monthly b) Quarterly c) Half yearly d) Yearly

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

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

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

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

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

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

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

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

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

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

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

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

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

31) Screening of 6-quad is done using **(a)**
a) Aluminium wires b) Aluminium sheath c) Lead sheath d) All

32) Loop resistance of 1.4 mm diameter 6-Quad cable is **(a)**
a) 23.2 ohm b) 56 ohm c) 118 ohm d) None

33) RDSO Specification of 1.4 mm dia 6-quad cable is **(a)**
a) RDSO/SPN/TC/72-07 b) IRS:TC: 30/2005 ver.2

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

34) Emergency control communication socket is provided at every **(a)**
a) 1000 mts b) 100 mts c) 915 mts d) None

35) Emergency control communication circuit is monitored at Hq by **(b)**
a) Engineering controller b) Traction Power controller
c) Train loco controller d) S&T controller

36) Emergency control communication socket has six pin in which Pin no 1&6 is for **(b)**
a) Trans pair b) Receive pair c) Signalling pair d) Auto phone

37) Emergency control communication socket has six pin in which pin no 2&5 is for **(a)**
a) Trans pair b) Receive pair c) Signalling pair d) Auto phone

38) Emergency control communication socket has six pin in which pin no 3&4 is for **(d)**
a) Trans pair b) Receive pair c) Signalling pair d) Auto phone

39) Phone provided in Emergency socket is **(a)**
a) PT set b) Control phone
c) Selective calling phone d) Magneto phone

40) Working voltage of PT set **(b)**
a) 6 V DC b) 3 V DC c) 12 V DC d) 1.5 V DC

41) The LED used in light weight PT set is **(d)**
a) Red colour b) White colour c) Yellow colour d) Multi colour

42) Quad number allotted for emergency communication is (c)
a) Quad-1 b) Quad -2 c) Quad-3 d) Quad-4

43)Quad number allotted for block communication is (a)
a) Quad-1 b) Quad -2 c) Quad-3 d) Quad-4

44)Quad cable colour code used for SGE double line block telephone circuit (b)
a) Orange-White (Quad-1) b) Red-Slate (Quad-1) c) Both a&b d) None of the above

45)For a block section of 10KM, what will be the maximum acceptable transmission loss at 2KHZ for axle counter working (b)
a) 10dB b)12dB c)15dB d)30dB

46) For a block section of 10KM, what will be the maximum acceptable transmission loss at 800Hz(a)
a)6.3dB b)0.63 dB c)5.6dB d)1.0dB

47) For a block section of 10KM, what will be the minimum acceptable insulation resistance for axle counter working (a)
a)10Mohm b)100Mohm c)20Mohm d)OL

48)In 6-Quad cable, quad-1 1st pair is used for which application of SGE double line block instrument (a)
a) Block bell b)Block telephone c)Block indication d)None of the above

49)In 6-Quad cable quad-1, centre tapping from 470:1120 transformers of 1st pair & 2nd pair is used for which application of SGE double line block instrument(c)
a) Block bell b)Block telephone c)Block indication d)None of the above

50) Full form of FEXT (c)
a) First End Cross talk
b) Final End Cross talk
c) Far End Cross talk
d) Full End Cross talk

51) Meter used for checking level of noise in cable(b)
a) Cross talk meter b)Psophometer c)TMS d)Meggar

52) The following parts of quad cable should be earthed properly to reduce induced voltages due to 25KV electrified line in RE sections (d)
a) Armour b) Al screen c) Poly aluminium tape d)All of the above

53) In a section of length 6KM, proper working of circuits in quad cable can be ensured only if induced voltages does not exceed beyond (a)
a) 52.5V b) 105V c)120.5V d)230V

54)If the BPAC circuit is frequently failing and observed noise in the quad cable while train passing, then the possible cable of cable fault may be (b)
a) Limb break in the cable b) Improper earthing of cable armour
c) Limbs may be short circuited in the cable d) Due to exceeded transmission loss in the cable

55) Sequential length marking on the cable to be provided by the manufacturer for every (a)
a) 1m b)5m c)10m d)100m

56) The transformer used between 6 quad cable termination and block instrument is (b)
a) 1120:470 b)470:1120d)1120:1120d)470:470

57) Remote monitoring of auto-section information is possible using (c)
a) E1 connectivity of Datalogger b)Ethernet connectivity of NV-Mux
c)Both a & b d)None of the above

58) Centralised monitoring of auto-section information by using NVMUX can be extended using (c)
a) Railnet b)PRSc)Dedicated Ethernet d)Datalogger.

59) when a pair of quad cable is used for one unit of HASSBPAC , as the section length is more , if 2 pairs of cables are used for one system of HASSBPAC , the result (b)

a) Performance improves b) Performance deteriorates.
c) solves low insulation problem. d) None of the above

5.Radio Communication

1) An electromagnetic wave consists of _____ (a)
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? (d)
a. F1 b. F2 c. E d. D

3) Frequencies in the UHF range propagate by means of (d)
a. Ground waves b. Sky waves c. Surface waves d. Space waves

4) Fading due to interference between direct and reflected rays. (c)
a. atmospheric-multipath b. Fresnel zone
c. reflection-multipath d. Rayleigh fading

5) What layer is used for high-frequency day time propagation? (a)
a. D Layer b. E Layer c. F1 Layer d. F2 Layer

6) By which name/s is an ionospheric propagation, also known as? (c)
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. (d)
a.186, 000 miles per sec b. 300x106 meters per sec
c.162, 000 nautical miles per sec d. All of the above

8) Diffraction of electromagnetic waves (d)
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)
a. Line of sight propagation b. Sky wave
c. Surface wave d. Standing wave

10) The ionosphere causes radio signals to be (c)
a. Diffused b. Absorbed c. Refracted d. Reflected

11) Ground wave communications is most effective in what frequency range? (a)
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? (b)
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)
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. (b)
a. Interference b. Fading c. Tracking d. Variable frequency

15) Two or more antennas are used separated by several wavelengths (a)
a. Space diversity b. Frequency diversity
c. Hybrid diversity d. Polarization diversity

16) Two or more receivers are used using a single antenna. (b)
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? (b)
a.180. b. 90 c. 270 d. 45

18) A diversity scheme wherein the receiver receives two fading signals from two different directions. (c)
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 _____. (c)
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 ___. (b)
a. 300KHz – 300 KHz b. 3 MHz – 30 MHz
c. 30MHz – 300MHz d. 300 MHz – 3 GHz

21) What is selective fading? (b)
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? (c)
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? (b)
a. Increase antenna gain b. Increase antenna height
c. Increase transmitter power d. Increase receiver sensitivity

24) Electromagnetic waves transport (d)
a. Wavelength b. Charge c. Frequency d. Energy

25) Line of sight communications is not a factor in which frequency range? (c)
a. VHF b. UHF c. HF d. Microwave

26) Way(s) of propagating electromagnetic waves: (d)
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 (b)
a.Polarization b. Reciprocity c. Efficiency d. Counterpoise

28) The antenna gain relative to the isotropic radiator is **(a)**
a. dB b. dBd c. dBi d. All the above

29) The antenna gain relative to a dipole antenna is (b)
a. dB b. dBd c. dBi d. All the above

30) The angular separation between the half-power points on an antenna's radiation pattern is the (d)
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)
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)
a. Spherical b. Dough-nut c. Elliptical d. Hyperbolic

33) Which conversion mechanism is performed by parabolic reflector antenna? (b)
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? (d)
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? (d)
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 (d)
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)
a. Narrower than b. Same as c. Broader than d. None

38) The Smart antennas can be classified as (c)
a. Switched beam antennas b. Adaptive Array antennas
c. Both a & b d. None of them

39) The features of Smart antenna is/are (d)
a. Signal gain b. Inference rejection c. Power efficiency d. All

40) Omni directional antennas always have _____ polarization (b)
a. Horizontal b. Vertical c. Both a & b d. None of them

41) An Antenna is classified based on (d)
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 (b)
a. is vertical b. is horizontal
c. is circular d. cannot be determined from the information given

43) Yagi antennas have a gain from (b)
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)
a) Ionospheric b) Ground wave c) Tropospheric d) all

45) Which type of wire antennas are also known as dipoles? (a)
a. Linear b. Loop c. Helical d . All

46) Linear polarization can be obtained only if the wave consists of _____ (c)
a. Ex b. Ey c. Both Ex & Ey & in phase d. Both Ex & Ey & out of phase

47) Radiation pattern is _____ dimensional quantity (b)
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 (d)
a. Hertz antenna b. Marconi antenna
c. Collinear antenna d. Yagi antenna

49) What is an antenna? (d)
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 (c)
a. signal shape b. electromagnetic pattern
c. radiation pattern d. antenna pattern

51) Types of polarization are (b)
a. Two types b. Thee types c. Four types d. None

52) Signal with a frequency above 30MHz use _____propagation. (c)
a. ground b. sky c. line of sight d. none

53) A parabolic dish antenna is _____antenna. (c)
a. omnidirectional b. bidirectional c. unidirectional d. horn

54) Signals with a frequency between 2 MHz and 30 MHz use __ propagation. (b)
a. ground b. sky c. line of sight d. none
55) FM radio uses frequencies in the _____ range. (d)
a. LF b. MF c. HF d. VHF

56) The minimum number of geosynchronous satellites needed to cover the earth is _____ (c)
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)
a) Attenuation b) Distortion c) Noise d) All

58) Frequencies lying immediately below VHF are referred to as (a)
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)
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)
a) Amplitude modulation b) Frequency modulation
c) Phase modulation d) Channel Modulation

61) What is the full form of SSB modulation. (d)
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. (d)
a) 5 b) 6 c) 7 d) 8

63) Radio communication ranges from a frequency of ___ to a frequency of ___ (b)
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)
a. surface b. tropospheric c. ionospheric d. line-of-sight.

65) Long-range radio navigation uses frequencies in the _____ranges. (a)
a. VLF and LF b. LF and MF c. MF and HF d. HF and UHF

66) AM radio uses frequencies in the _____ range (b)
a. LF b. MF c. HF d. EHF

67) FM radio uses frequencies in the _____ range (d)
a. LF b. MF c. HF d. VHF

68) Mobile telephones use frequencies in the _____ range. (a)
a. UHF b. MF c. HF d. EHF

69) In the transmission of terrestrial microwaves, _____ can regenerate the signal at each antenna. (a)
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. (c)
a. repeater b. satellite c. parabolic dish antenna d. any of the above.

71) Frequencies for satellite communication are in the _____ range. (c)
a. millihertz b. megahertz c. gigahertz d. terahertz

72) Signals with a frequency below 2 MHz use _____ propagation. (a)

a. Ground b. sky c. line-of-sight d. none

73) Radio waves are _____ (a)
a. Omnidirectional b. unidirectional c. bidirectional d. none

74) ___ are used for cellular phone, satellite, and wireless LAN communications.(b)
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. (c)
a) Radio waves b) Microwaves c) Infrared waves d) none

76) The purpose of _____ is to compensate for an attenuated signals loss. (b)
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)
a. Decibel b. power c. Shannon capacity d. signal-to-noise ratio

78) A loss of 3 dB is equivalent to _____ (b)
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) (c)
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 _____ (d)
a. throughput b. propagation speed c. propagation time d. All

81) The _____ of a sine wave is dependent on its frequency and its medium (c)
a. amplitude b. phase c. Wavelength d. any one

82) In the formula $\lambda = c/f$, c is the _____ (d)
a. wavelength b. frequency
c. speed of light in a vacuum d. Propagation Speed

83) The propagation time is _____ (a)
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 (c)
a. amplitude b. phase c. Wavelength d. any one

85) The wavelength is the distance a simple signal can travel _____. (c)
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 _____. (c)
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. (d)
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 (c)
a. repeater b. satellite c. Parabolic Dish Antenna d. any one

89) The two highest radio communication bands use frequencies propagated mainly through _____ (a)
a. Space b. the ionosphere c. the troposphere d. the atmosphere

90) In 5 Watt VHF, channel allocated for S&T department is (b)
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 (d)
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)
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)
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 (b)
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 (d)
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 (b)
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 (c)
a. 5 V D.C b. 7.5 V D.C c. 12 V D.C d. 24 V D.C

98)Characteristic Impedance of Coaxial cable used for VHF communication is (c)
a. 470 ohm b. 600 ohm c. 50 ohm d. 100 ohm

99) Type of modulation used in VHF communication is (b)
a. AM b. FM c. QPSK d. all

100) Type of antenna used in 25Watt VHF set is (b)
a. Helical antenna b. Ground Plane antenna
c. Parabolic Antenna d. Yagi uda antenna

101) 5 Watt VHF Set supports a distance of (a)
a. 1KM to 2KM b. 5 KM to 10 KM
c. 10 KM to 15 KM d. upto 50 KM

102) Channels used for station to station communication of a straight section in 25W VHF Set (d)
a. Channel-5 b.Channel-6 c.Channel-7 d.All of the above

103) Full form of WPC (b)
a. Wireless Planning Committee
b. Wireless Planning Coordination
c. Wireless Processing Committee

d. Workforce Planning Committee

104) Frequency band used for VHF Communication in Indian Railways? (b)
a. 30MHz to 300MHz b.146.2MHz to167.95MHz c.3MHz to 30MHz d.None of the above

105) Transmission type used in VHF Set is (b)
a. Duplex b.Half-Duplex c.Simplexd.None of the above

106)When there is no communication in 25W VHF Set, the possible case of fault will be (d)
a. BNC connector fault b.No continuity of co-axial cable c.Desired channel is not selected d.All

107) Star link works on (c)
a. OFC connectivity b. PIJF cable connectivity c.Satellite communication d. all of the above.

6.LTE

1)Full form of LTE (b)
a)Life Time Evolution b)Long Term Evolution
c)Life Term Evolution d)Long Time Evolution

2) LTE Applications are (d)
a)Train Collision Avoidance System b)Video Surveillance &WiFi provision in trains
c)Internet Of Things d) All of above

3)UP link frequency used in LTE in Indian railways (b)
a) 758 – 803 MHz b) 703- 745 MHz c) 858 – 903 MHz d) 803- 945 MHz

4)DN link frequency used in LTE in Indian railways (a)
a) 758 – 803 MHz b) 703- 745 MHz c) 858 – 903 MHz d) 803- 945 MHz

5)LTE shall be able to support (c)
a) Time Division Duplex (TDD) b) Frequency Division Duplex (FDD) c)Bothd)None

6)The train speeds supported by LTE (b)
a)0-120Kmph b)0-250 Kmph c)0-150Kmph d)0-200Kmph

7)The architecture of LTE system consists of (e)
a)EPCb)E-UTRAN c)UE d) Application server e) All of above

8)Full form of EPC (a)
a) Evolved Packet Core b) Evolved Process Core
c) Evolved Packet Code d) Evolved Process Code

9) Full form of E-UTRAN (b)
a) Evolved Universal Terrestrial Remote Access Network
b)Evolved Universal Terrestrial Radio Access Network
c) Evolved Universal Terrestrial Radio Application Network
d) Evolved Universal Terrestrial Remote Access Network

10)The base station for LTE radio in E-TRAN is (a)
a)Evolved Node B(eNodeB) b) Serving Gate way (S-Gate way)
c)PDN Gate way (P-Gate way) d)User Equipment (UE)

11) The interface between UE & E-UTRAN (b)
a)S1-U b) Uuc)SGid)S12

12) The interface between UTRAN & S-Gate way (d)
a)S1-U b) Uuc)SGid)S12

13) The interface between E-UTRAN & S-Gate way (a)
a)S1-U b) Uuc)SGid)S12

14) The interface between operators IT services & P-Gate way (c)
a)S1-U b) Uuc)SGid)S12

15)The interface between different EnodeB's (c)
a)S1 b)S2 c)X2 d)S12

16) Modulation Schemes supported in both UP & DN link of LTE (d)

a) QPSK b) 16QAM c)64QAM d)All of them

17)MME, HSS, S-Gate way, P-Gate way are the components of (a)
a)EPC b) E-UTRAN c) UE d) None of them

18)EPC locations are located at (c)
a) New Delhi b) Secunderabadc)Botha&b d) None of them

19) LTE is primarily associated with which generation of mobile technology? (c)
a.3G b.2G
c.4G d.5G

20)What is the advantage of using LTE over UHF for Kavach communication? (b)
a.More spectrum b.Lower latency and better reliability
c.Higher latency d.Lower cost

21)What is the duration of one LTE radio frame? (b)
a.1 ms b.10 ms c.20 ms d.5 ms

22)What is the duration of one LTE slot? (a)
a.0.5 ms b.2 ms c.0.25 ms d.1 ms

23)What is the function of the Cell Site Router (CSR) in LTE base station? (a)
a.ConnectseNodeB to EPC via IP-MPLS b.Manages handovers
c.Encrypts user data d.Allocates IP addresses

24)What is the function of the eNodeB in LTE? (c)
a.Acts as a router b.Manages user authentication
c.Provides radio access and control d.Allocates IP addresses

25)What is the main goal of LTE? (d)
a.To eliminate the need for base stations b.To reduce mobile phone prices
c.To replace GSM d.To provide high data rate and low latency

26)What is the maximum LTE channel bandwidth supported? (d)
a.15 MHz b.25 MHz c.10 MHz d.20 MHz

27)What is the primary goal of LTE network planning? (d)
a.Reduce ticket prices b.Replace GSM-R with 5G
c.Increase train speed d.Optimize coverage, capacity, and QoS

28)What is the typical LTE spectrum band allotted for Indian Railways? (d)
a.2100 MHz b.1800 MHz c.900 MHz d.700 MHZ

7.KAVACH

1) KAVACH is required to be functional up to a maximum train speed of –(c)
a.100 kmph b.250 kmph c.200 kmph d.130 kmph

2)Latest Kavach Specification is (c)
a.RDSO/SPN/192/2019 version 4.0 b.RDSO/SPN/196/2012 version 3.2.
c.RDSO/SPN/196/2020 version 4.0 d. RDSO/SPN/196/2019 version 3.2

3)What type of modulation technique is used in Radio Modem of Kavach working System…..(a)
a.2- FSK (Frequency shift keying) b.Amplitude Modulation
c.Phase shift keying d.Phase Modulation

4)Height of the tower in kavach system is -----(c)
a.15 mtrs b.30 mtrs c.40 mtrs d.25 mtrs

5)In Kavach equipped installation, the Side collision in block section can be prevented by following arrangement : (c)
a.Automatic brake application takes place.
b.None of these.
c.There shall be provision of automatically generating SOS from a Onboard Kavach if it stops for a specific amount of time (Default: 15s / 10 s) in both absolute block and automatic section.
d.Side collision cannot be prevented directly or indirectly.

6)All RF TAGs are placed in the _____ architecture (c)
a.2 out of 2 b.None c.1 out of 2 d.2 out of 3

7)In Kavach System, RFID TAG is _____ type of device (d)
a.Active b.None c.a& b d.Passive

8)Fixing Arrangement along the length of the PSC Sleeper does not exceed—(c)
a.280 mm b.350 mm c.380 mm. d.450 mm

9)While fixing RFID Tags, the topmost portion of the RFID Tag (d)
a.should not be more than 380 mm above top surface of PSC Sleeper at centre.
b.None of these.
c.should not be more than 750 mm above top surface of PSC Sleeper at centre.
d.should not be more than 75 mm above top surface of PSC Sleeper at centre.

10)The onboard Kavach shall determine the location of the train with the help of ----------(b)
a.GPS communication b.RFID tag data and directional type speed sensor output.
c.Radio communication d.GSM communication

11)Upto how many km can RIU may be placed from the station . Select the most appropriate answer. (d)
a.2 b.5 c.8 d.It will depend on the radio coverage available or not

12) RIU can be available at _____ places (b)
a.Automatic section b.All of the options
c.IB d.LC gate

13)Station Kavach can be connecting minimum of RIU in one direction (b)
a.None b.6 c.5 d.8

14)The frequency used between RFID tag and RFID reader is_____(d)
a.875- 885Mhz b.None of these c.845- 855Mhz d.865-867Mhz

15)In Kavach System, the Distance between two normal tags in case of block section is not more than_____(c)
a.5 KM b.3.5 KM c.1 KM d.None

16)In Kavach System,atleast Distance between Gate Tags and Level crossing Gate shall be _____(a)
a.600m b.None: c.1 KM d.1.5 KM

17)OFC and power cable in ---------- path shall be provided from Stationary Kavach unit to the location box at tower to avoid common mode failures.(b)
a.Unified b.Diverse c.All the options are correct d.Simplified

18)Cable used for connectivity between radio modems and RF Antenna is.....(b)
a.Quad cable b.LMR cable c.OFC cable d.Paired Cable

19)In the Kavach installation, Radio communication unit shall have ---------- (c)
a.Any of these b.Warm standbyc.Hot standby d.Cold standby

20)In EI stations, to connect inputs to station kavach, interface used is (a)
a.Using EI protocol converter b.All inputs through Repeater relay
c.All of the above d.None of the above

21)Station Kavach communication with NMS is connected through interface? (d)
a.Radio b.Serial c.E1 d.None of the above

22)Loco Kavach communication with NMS is connected through _____ interface? (c)
a.Ethernet b.Radio c.GSM d.E1

23)In the RFID layout ------- to be mentioned. (d)
a.Absolute location of LC gates
b.Absolute location of Fouling Marks
c.Absolute locations of tags
d.All the options are correct

24)Power supply available for kavach system in Diesel loco (a)
a.72V DC b.)24V DC c.48V DC d.110V DC

25)Power supply available for kavach system in Electric loco (d)
a.72V DC b.24V DC c.48V DC d.110V DC

26)At present, the following OEM equipments are used in KAVACH in Indian Railways (d)
a.HBLb.Medhac.Kernexd.All of them

8.Satellite Communication Systems

1) The transmitter-receiver combination in the satellite is known as a ____ (c)
a. Relay b. Repeater c. Transponder d. Duplexer

2) What is the reason for carrying multiple transponders in a satellite? (a)
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?(c)
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)
a) MF b) Ku c) X d) C

5) Which of the following is not a satellite subsystem? (a)
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? (c)
a) Repeater b) Relay c) Transponder d) Transducer

7) Which of the following transponders convert the uplink signal to downlink signal using two mixers (b)
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? (c)
a) Retrograde b) Posigrade c) Perigee d) Apogee

9) The time period taken by the satellite to complete one orbit is called (c)
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? (c)
a) Circular orbit b) Elliptical orbit
c) Geosynchronous orbit d) Triangular orbit

11) What percentage of the earth can communication satellites see? (d)
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? (b)
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 (b)
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. (c)
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)
a. FDMA & TDMA b. SCPC & CDMA
c. CDMA & GSM d. none of these

16) What is meant by GPRS ? (b)
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)
a. simplex b. half duplex c. full duplex d. none

18) Collects a very weak signal from a broadcast satellite? (b)
a. helical antenna b. satellite dish c. LNA d.TWT

19) The earth area covered by a satellite radio beam is known as (c)
a. beam width b. band width c. footprint d. zone

20) A satellite signal transmitted from a satellite transponder to earth's station (b)
a. up link b. down link c. terrestrial d. earth bound

21) What band does VSAT first operate? (c)
a. L-band b. X-band c. C-band d. Ku-band

22) VSAT was made available in? (a)
a. 1979 b. 1987 c. 1983 d. 1973

23) What kind of battery panels are used in advance satellites (d)
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 (d)
a. EHF b. UHF c. VHF d. SHF

25) A geostationary satellite is one which (d)
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 (b)
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 (d)
a. internet b. data c. video d. all

28) The VSAT system operates in two different bands named (c)
a. Ku-band b. C-band c. both a & b d. none

29) The Ku-band networks commonly used in (a)
a. Europe & north America b. asia& Africa
c. latin America d. both a & b

30) The C-band networks commonly used in (d)
a. Europe & north America b. asia& Africa
c. latin America d. both b & c

31) Which band of frequencies require the large VSAT antenna (b)
a. Ku-band b. C-band c. both a & b d. none

32) Which band of frequencies require the smaller VSAT antenna (a)
a. Ku-band b. C-band c. both a & b d. none

33) The VSAT system operates under C-band frequency are (c)
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 (c)
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 (c)
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 (c)
a. star & triangle b. mesh & bus
c. star & mesh d. ring & bus

37) With a star topology the VSAT terminal transmits using (a)
a. FDMA b. FLST c. CDMA d. TDMA

38) With a star topology the hub terminal transmits using (b)
a. TDMA b. TDM c. FDMA d. CDMA

39) VSAT is the acronym for (a)
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 (c)
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 (b)
a. point to multipoint networks b. point to point networks
c. multipoint to multipoint networks d. none

42) E1 Modem transmission speed is (c)
a. 6 Mbps b. 4 Mbps c. 2 Mbps d. 512 Kbps

43) Components of VSAT network are (d)
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 (b)
a. 3 mtr b. 6 mtr c. 4 mtr d. 2 mtr

45) The remote earth station of VSAT comprises of (d)
a. outdoor unit (ODU) b. indoor unit (IDU)
c. inter facility line (IFL) d. all of the above

46) Where is VSAT hub located (b)
a) Chennai b)New Delhi c)Kolkatad)Hyderabad

47) Type of antenna used in VSAT Remote equipment (b)
a)Ground plane antenna b)Parabolic Antenna c)Helical Antenna d)Horn antenna

48)Which of the components are part of VSAT Remote equipment's (d)
a)Multi Service Gateway b) Antenna c)Video Modem d)All of the above

49) VSAT Network in Indian Railways is typically used for (d)
a) UTS & PRS b)FOISc)Accident Communication d)All of the above

50)Which modem is used in A-route ART VSAT system for collection of latitude-longitude data through GPS (b)
a)Video Modem b)HX200 modem c)AMR modem d)HN7000

51)The power supply used for VSAT multi service gateway at remote unit end is (c)
a) -48V DC b)230V AC c) Both a & b d)110V AC

9.Line Plant Systems – Underground Copper Cable and OFC

1) Light is composed of elementary particle called (c)
a) Electron b) Proton c) photon d) neutron

2) Primary properties of light are (d)
a) Wavelength b) Polarization c) frequency d) all

3) Speed of light in free space defined by Einstein equation is (a)
a) E = mc2 b) E = M/C2 c) M = EC2 d)M = E/C2

4) Speed of light in vaccum divided by speed of light in a material is called (a)
a) Refractive index b) Polarization index c) reflective index d) none

5) Optical fibers accept _____ signals only (b)
a) Bipolar b) unipolar c) any polarity d) None

6) The main drawback of optical fiber as a communication medium is that _ (a)
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 (b)
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)
a) 0.35 b) 3.5 c) 2.5 d) 0.25

9) In step index fiber _____ (d)
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)
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)
a) Wavelength of light b) Refractive index c) Velocity of light d) None

12) Mode-Field Diameter (MFD) defines the _____ (b)
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)
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) 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 ____ (b)
a) Circularly polarized mode b) linearly polarized mode
c) TEM mode d) TM mode

16) Multimode fiber is best designed for _____ transmission distances (b)
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)
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 (b)
a) Cladding b) Core c) Buffer d) Tube

19) Cut-off wavelength of a SM fiber is greater than _____ mm. (b)
a) 1310 b) 1260 c) 1450 d) 1550

20) Mode field diameter of SM fibre is _____ micrometers. (a)
a) 9.3 b) 12 c) 125 d) 6

21) The Numerical aperture is _____. (a)
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)
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 _____. (b)
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)
a) Scattering b) absorption c) total internal reflection d) Four wave mixing

25) Rayleigh's scattering is due to _____ present in the silica matrix. (b)
a) Water vapors b) metal ions c) OH- ions d) H+ ions

26) Scattering limits the use of wavelengths below ___ mm in optical fiber. (c)
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. (c)
a) Bending b) scattering c) absorption d) Dispersion

28) An attenuation of 3dB corresponds to __ % reduction in original power. (c)
a) 10 b) 30 c) 50 d) 3

29) Inter modal dispersion present in (b)
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 in data rates ___ (a)
a) above 1Gbps b) below 1Gbps
c) above 2Mbps but less than 1Gbps d) below 30Mbps

31) The normal optic fiber cable drum length is _____. (b)
a) 2 Km b) 3 Km c) 1 Km d) 4 Km

32) 12-fiber armoured optic fiber cable can be used for _____ laying. (b)
a) Underground as well as for aerial b) Only Underground

c) Only aerial d) None

33) The 24-fiber armoured optic fiber cable contains _____. (d)
a) 2 loose tubes b) 3 loose tubes
c) 24 single loose tubes d) 6 loose tubes

34) The loss offered by a mechanical splicing of optic fibers is less than ___ dB. (c)
a) 0005 b) 0.05 c) 0.5 d) 1.5

35) The loss offered by a fusion splice of optic fibers shall not exceed __ (c)
a) 0.005 b) 0.05 c) 0.2 d) 1.5

36) Ferules of optic fiber connectors are made of _____ materials. (a)
a) metal or ceramic or plastic b) only metal
c) only ceramic d) only plastic

37) Biconic connectors are generally used in _____ applications in optic fiber communication. (a)
a) LAN b) WAN c) SAN d) MAN

38) Cleaving of the fibre is performed to obtain ___ on end face of the fiber (a)
a) 90degrees b) 60degrees c) 40degrees d) 30degrees

39) Generally Light sources are provided to emit light at ____ wave lengths (b)
a) 850, 1200, 1460nm b) 850, 1310, 1550nm
c) 850, 1410, 1350nm d) 800, 1200, 1460nm

40) Generally Light sources are provided to emit light at ____ power levels (c)
a) 0dBM or -3dBm b) 0dBM or -6dBm
c) 0dBM or -7dBm d) 3dBM or -7dBm

41) LSPM(Light source Power meter) method is superior to OTDR for Measuring (b)
a) Power and distance b) Power only
c) Distance only d) Optical return Loss only

42) The Dead zone in OTDR is caused by_____ (a)
a) Fresnel reflection and the amplifier recovery time b) Fresnel reflection only
c) Amplifier recovery time d) RBS

43) On OTDR trace horizontal axis represents_____ (b)
a) Launch Power b) Distance c) Return Power d) Time

44) On OTDR trace Vertical axis represents_____ (c)
a) Launch Power b) Distance c) Return Power d) Time

45) Excessive pulse width in OTDR causes_____ (b)
a) Decrease in Dead zone length b) Increase in Dead zone length
c) Dead zone length is un effected d) Ghost refection occurs

46) Reduction in acquisition time in OTDR causes _____ (b)
a) Smooth trace is obtained b) Noisy trace is obtained
c) Dead zone length is extended d) Ghost refection occurs

47) For best results of measurements with OTDR _____ (d)
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

48) OTDR trace to be obtained and analysed in OFC installation. Identify the correct statement (c)
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

49) Light emission can occur through (c)
a) Spontaneous emission b) Stimulated emission
c) Both of a & b d) None of a & b

50) The main Requirements of Optical sources include (d)
a) Spectral width & Directivity b) Output Power & Output wave length
c) Linearity and Reliability d) All of the above a, b, & c

51) The quantum efficiency of an optical source is defined as (a)
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

52) Optical sources include (d)
a) LEDs only b) LASER only
c) LASERs, LEDs and APDs d) Both of a & b

53) Photo detectors include (a)
a) PIN diode and APDs b) APDss and MSMs
c) APDs, PIN diodes, & MSMs d) None of the above a,b& c

54) The system up gradation in optical fiber links does not require change in ___.(a)
a) Amplifiers b) regenerators c) optical mux d) none

55) System up gradation requires replacement of regenerators in optical fiber links(a)
a) regenerators b) Amplifiers c) optical mux d) none

56) Link power budget analysis is to be performed to ensure_____ (b)
a) Sufficient system operation margin b) Link operational feasibility
c) Minimum power available at the receiver d) All of the above a,b& c

57) The reasons for keeping system margin is/are_____ (d)
a) Future cable cuts and subsequent losses b) Aging effects
c) Environmental degradations d) All of the above a,b& c

58) Basic scenarios to be considered in PBA (Power Budget Analysis) (d)
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

59) An optical Tx is emitting power at 0dBm which is equivalent to_____ (a)
a) 1mWatt b) 1 micro Watt c) 1Watt d) 0 Watt

60) A Loss of 10 dB implies _____ (b)
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

61) A Loss of 3 dB implies _____ (a)
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

62) Total rise time of the system is defined as _____ (a)
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

63) In Rise time budget analysis factors to be considered are (d)
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

64) In rise time budget analysis Rise time of Source and detector can be found using _____ (b)
a) Suitable measurement technique b) DATA Sheet of OEM
c) Can be assumed reasonably d) All of the above a, b, & c

65) In Rise time budget analysis Rise time of fiber can be found using _____ (d)
a) Suitable measurement technique b) DATA Sheet of OEM
c) Can be assumed reasonably d) From dispersion coefficient & bandwidth

66) OTDR is used for _____ (d)
a) Attenuation loss measurement b) Fiber break identification
c) Splice loss d) All

67) Wavelength used in single mode fiber for long haul communication is___ (d)
a) 850 nm b) 1310 nm c) 1550 nm d) Both c & d

68) Optical power meter is used to measure _____ (a)
a) Power loss b) Current loss c) Voltage loss d) None

69) Permissible splice loss in arc fusion splicing is ___ (a)
a) < 0.1 dB b) < 0.5 dB c) < 1.0 dB d) < 2.0 dB

70) Type of OFC cable used in Indian railways is ____ (b)
a) 12 F b) 24 F c) 48 F d) 96 F

71) OFC cable drum size used in Indian railways is _____ (c)
a) 1 KM b) 2 KM c) 3 KM d) 4 KM

72) Refractive index of glass is _____ (b)
a) 1.0 b) 1.5 c) 2.0 d) 2.5

73) Macro bending loss should not be less than ____ diameter of cable (b)
a) 20 D b) 30 D c) 40 D d) 50 D

74)Telecom cable shall be laid in _____pipes for a length of _____on either side of TSS
a.RCC pipes & 300mtrs. b.HDPE& 200 mtrs. c.Troughs& 200 mtrs. d.GI pipes & 200 metres

75)Cumulative build up of induced voltage in U/G telecom cable is prevented by (c)
a.Current transformers b.Step down transformers
c.Isolation transformers. d.Matching transformers.

76)Isolation transformers are introduced at a regular intervals of approximately (a)
a.17 kms
b.10 kms
c.19 kms
d.20 kms

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

78)Distortion less condition in a cable can be achieved by satisfying the condition of (b)
a.LR=CG
b.GL=CR
c.CG=LR
d.RG=CL

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

80)What is the purpose of loading in an underground telecom cable (d)
a.To reduce noise
b.To increase attenuation
c.To decrease cross talk
d.To reduce transmission loss

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

82)The purpose of tinned copper braid in RTSF jointing kit is (c)
a.To provide continuity between the poly al sheaths of both the cables
b.To provide continuity between the GI armours of both the cables
c.To provide continuity between the Al. screening of both the cables
d.For providing continuity between the conductors

83)Branch off clip is used for ___ joint only (d)
a.Condenser joint
b.Loading coil joint
c.Normal joint
d.Derivation joint

84)The RDSO spec for jointing kit used for PIJF telephone cables is (b)
a.IRS/TC/41/97
b.IRS-TC-57/2006
c.IRS.TC.77-2012
d.IRS.TC.77-2013

85)The purpose of jelly in RTSF jointing kit (d)
a.To provide good conductivity
b.To avoid short circuit

c.For providing mechanical support
d.To prevent entry of water

86)Purpose of sealant tape in the RTSF kit is (b)
a.To wrap the conductors
b.To cover the metallic projections
c.To prevent entry of water
d.To seal the joint

87)The characteristic impedance of a switch board cable is (d)
a.1120 ohms
b.500 ohms
c.470 ohms
d.600 ohms

88)Telecom switch board cables are used for (c)
a.Outdoor telecom wiring
b.Electrical switch board wiring
c.Indoor telecom wiring
d.Underground telecom wiring

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

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

91)RG 8 cable can be used upto the length of (a)
a.500 mtrs
b.800 mtrs
c.600 mtrs
d.400 mtrs

92)Specification of Switch Board cable is (a)
a.TECSpec.No:GR/WIR/06/03 of March 2002
b.IS 434-Part-1/1964
c.RDSOSpec.No:IRS:TC 41/97 (Amd.2)
d.IS-694-Part/1964)

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

94)UTP cable that transmits up to 10 Mbps is (c)
a.Cat 4
b.Cat 2
c.Cat 3
d.Cat 1

95)In STP cables __is used as screen (b)
a.Copper sheath
b.Aluminium foil
c.Aluminium wires
d.Aluminium sheath

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

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

98)RG 58 cable can be used up to the length of __meters (b)
a.165
b.185
c.210
d.125

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

100)Insulation resistance of quad cable shall be tested with _____ Megger after completion of jointing of cables (d)
a.1000 V
b.500 V
c.250 V
d.100 V

101)In 20 pair PIJF cable, conductor insulation main colours are_and mate colours are _ (d)
a.6 & 4
b.4 & 5
c.3 & 5
d.5 & 4

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

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

104)Purpose of amour in U/G cable is (c)
a.Prevents the entry of water

b.Prevents the entry of moisture
c.Mechanical strength
d.Provides screening

105)D8 Cable consists of (b)
a.5 strands
b.7 strands
c.10strands
d.20 strands

10.IP-MPLS Technology

1)What is MPLS? (a)
a. Multiprotocol Label Switching b.Multi Label Switching
c.Multilabel Protocol switching d.All of the above

2)What protocols does IP-MPLS support? (c)
a.Frame Relay / Point to point Links b.IPV4 / IPV6
c.Alld.IPX / Token Ring / ATM

3)What problems does MPLS solve? (e)
a.VPN's
b.Speed of Layer 2 switching to Layer 3
c.Traffic Engineering
d.Elimination of Multiple Layer
e.All the options

4)Advantages of MPLS traffic Engineering (d)
a.Routing traffic around hotspots in the network
b.Steering traffic so that all links in the network are used optimally
c.Fast rerouting traffic around link and node features
d.All of them

5)As per IP-MPLS TAN revision.2, Each of the division shall form an MPLS domain in itself and connect to RCIL/ adjacent division's MPLS network using which Protocol (d)
a.Broadway Gate Protocol
b.Interior Gateway Protocol
c.Autonomous Gateway Protocol
d.Border Gateway Protocol

6)Border Gateway Protocol (BGP) ___ routing Protocol (b)
a.Distance vector
b.Path vector
c.Line vector
d.Advanced Distance Vector

7)How does LDP session protection between two LSR communicate (c)
a.Null Message
b.Hi message
c.Hello message
d.None

8)How many bits are there in an IP-MPLS label? (c)
a.16.
b.12.
c.20.
d.32.

9)How many bytes are in a MPLS packet? (b)
a.64 bytes
b.4 bytes
c.16 bytes
d.8 bytes

10)In IP-MPLS which Service is a ability to control specific routes across a network to reduce congestion and improves the cost of efficiency of carrying IP Traffic. (c)
a.MPLS-Quality of service

b.MPLS- Reverse Engineering
c.MPLS- Traffic- Engineering
d.MPLS- Virtual Private Network

11)IN IP-MPLS, Label Edge Router(LER) can be (b)
a.Egress Router
b.Can be Both **a & d** depends upon Traffic Flow
c.Cannot be both
d.Ingress Router

12)In IP-MPLS, The method of interconnecting multiple sites belonging to a customer using a Service Provider (SP) backbone network in place of dedicated leased lines (a)
a.MPLS- Virtual Private Network
b.MPLS- Reverse Engineering
c.MPLS-Quality of service
d.MPLS- Traffic- Engineering

13)In IP-MPLS, the _____ Router which is at the end of LSP removes the labels. (a)
a.Egress Edge Router
b.Label Switch Controller
c.Ingress Edge router
d.Forwarding Equivalence Class

14)In Routing, The process which allows routes from one routing protocol to be advertised into another routing protocol is route (b)
a.Commutation
b.Redistribution
c.Association
d.Distribution

15)Intermediate state to intermediate state (IS-IS) default Administrative Distance is. (d)
a.120
b.90
c.110
d.115

16)IP-MPLS is a layer.... technology (c)
a.2
b.3.5
c.2.5
d.3

17)LDP uses ___ for reliable delivery and session health (c)
a.RSVP
b.IP
c.TCP
d.IGP

18)IB + FIB (b)
a.LFIBBED
b.LFIB
c.FLIB
d.FLIBBER

19)Official routing protocol of MPLS (b)
a.FIB forwarding information Base
b.LDP label distribution protocol

c.All the above
d.RIRv2

20)The router that is closer to the source router is called .... in MPLS network. (a)
a.Up stream Router
b.Up Router
c.Down stream Router
d.Down Router

21)What are four fields that are part of the label (c)
a.16 – bit label value, 3 experimental bits, 2 bottom of stack bit, and an 8-bit TTL field
b.12 – bit label value, 3 experimental bits, 1 bottom of stack bit, and a4-bit TTL field
c.20 – bit label value, 3 experimental bits, 1 bottom of stack bit, and an 8-bit TTL field
d.20 – bit label value, 3 experimental bits, 2 bottom of stack bit, and a4-bit TTL field

22)What are the actions of adding and removing labels called with MPLS? (b)
a.wipe on wide off
b.push and pop
c.Plug and play
d.Pop and push and play

23)What is a Route Distinguisher? (c)
a.56-bit IPV4 value to make the route unique
b.36-bit IPV4 value to make the route unique
c.64-bitIPV4 value to make the route unique
d.48-bit IPV4 value to make the route unique

24)Full form of LER? (b)
a. Label Edge Ring
b. Label Edge Router
c. Link Edge Router
d. Link End Router

25)Full form of LSR? (c)
a.Label Station Router
b.Link State Router
c.Label Switch Router
d.Link Station Ring

25)Which of the following is not the advantage of MPLS technology over conventional SDH ? (c)
a.Most of the traffic migrated to Ethernet instead of E1
b.Better network security
c.Supports maximum bandwidth of 155.52Mbps
d.Supports both TDM and packet traffic

26) Station to station MPLS connectivity shall be on (b)
a. 1G Optical interface
b.10G Optical interface
c. STM1 Optical Interface
d.1G Copper Interface

27)At junction stations with more than 2 directions, the additional MPLS device used is (b)
a. LER b. LSR c.Both of them d.None of the above

28)Which of the MPLS device connects division MPLS network to Zonal MPLS network (b)
a. LER b. LSR c.Both of them d.None of the above

29)MPLS router works on power supply of (c)
a. Single -48V DC b. Single 230V AC c.Dual -48V DC d.Dual 230V AC

30)Existing PDMUX in OFC hut can be connected to MPLS router using (a)
a. E1 interface b.1G interface c.STM1 interface d.10G interface

31)Existing STM in OFC hut can be connected to MPLS router using (a) c
a. E1 interface b.1G interface c.STM1 interface d.10G interface

11.SDH Equipments (STM), Digital Multiplexing Equipment (PD MUX)

1) In SDH system the multiplexing is done by _____ process (b)
a) Bit interleaving b) Byte interleaving c) Both a & b d) None

2) A single synchronous multiplexer can performs the function to _____ (b)
a) Add All PDH data rates b) Drop all PDH data rates
c) Add/Drop all PDH data rates d) None

3) Synchronous digital transmission equipments can be inter operable? (a)
a) From different venders b) From same vendors
c) Both a or b d) None

4) The container and path overhead of SDH frame together formed as ____ (a)
a) Virtual container(VC-n) b) Tributary unit (TU)
c) Pointer d) Administrator Unit (AU)

5) The standardized E1 rate of ITUT is mapped into _____ (a)
a) C12 b) C11 c) C3 d) C4

6) J1 byte of POH in STM1 is used for _____ (a)
a) Path trace b) BER c) Management d) EOW

7) In one TUG-3 how many No. of TU-12 will exists? (c)
a) 7 b) 3 c) 21 d) 63

8) The data rate of STM-4 is _____ (a)
a) 622.080 Mbits/s b) 2.488 Mbits/s c) 155.52 bits/s d) 2.048 Mbps

9) The Administrative unit is the combination of _____ (d)
a) Pointer+ POH b) VC-4 + POH c) POH+C-4 d) VC-4+POINTER

10) In an STM-1 frame, the size of payload area will be of ____ bytes (b)
a) 2430 b) 2340 c) 2043 d) 2240

11) An STM -1 frame is arranged as _____ rows and columns (c)
a) 9 X 260 b) 9 X 261 c) 9 X 270 d) 9 X 269

12) Performance analysis and error monitoring will be done by ____ bytes (a)
a) B1, B2, B3 b) A1, A2, A3 c) C1, C2, C3 d) D1,D2,D3

13) When VC-4 is slower than STM-1 payload, the process required is ____ (a)
a) Positive justification b) Negative justification c) Offset d) None

14) _____ bytes are used as Data communication channel for maintenance purpose between multiplexers. (c)
a) K1,K2 b) F1,F2 c) D4-D12 d) A1-A3

15) _____ bytes are used for Automatic Protective Switching (APS) command & remote alarm command (a)
a) K1, K2 b) F1, F2 c) D4-D12 d) A1-A3

16) Section Over Head is the combination of _____ (a)
a) RSOH+MSOH b) RSOH+AU-4 c) MSOH+AU-4 d) None

17) _____ defines the locations of the TU3s with in the VC4 (a)
a) TUG-3 b) TUG-2 c) TU12 d) TU-11

18) A row of VC4 in an STM –1 frame generates-_____ (a)
a) 87 addresses b) 86 addresses c) 85 addresses d) 84 addresses

19) The number of bytes to generate an address in VC4 frames _____ (a)
a) 3 bytes b) 4 bytes c) 2 bytes d) 1 bytes

20) To generate a pointer address for negative justification are _____ (a)
a) H1 & H2 bytes. b) H3 & H4 bytes c) H1 & H3 bytes d) H2 & H4 bytes

21) In positive justification, the AU4 pointer value is _____ (a)
a) Incremented b) Decremented c) Both A or B d) None

22) The V3 byte of TU12 of 500μs is used for _____ (a)
a) Negative justification b) Positive justification c) Both A or Bd) None

23) The end nodes of bus topology are called _____ (a)
a) Terminal nodes b) Add /drop nodes c) Both A or B d) None

24) A ring network consists of _____ (a)
a) ADM nodes b) Terminal nodes c) Both A or B d) None

25) In star network if the HUB fails _____ (a)
a) No traffic can flow in the links b) Traffic can flows through the alternative link
c) Both A or B d) None

26) The nodes of meshed network contain _____ (a)
a) Cross-connected equipments b) No need of cross-connected equipment
c) Both A or B d) None

27) If one of the inter node links of a APS network fails _____ (b)
a) The traffic is interrupted b) The traffic is not interrupted
c) Both A or B d) None

28) The multiplexing section of a SDH network is protected by _____ (a)
a) 16 bits of MSOH b) 8 bits of MSOH
c) 32 bits of MSOH d) None

29) In case of 1+1 configuration of a SDH network _____ (b)
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

30) Bi-directional SDH ring supports (b)
a) Only section protection b) Both the path and section
c) Both A & B d) None

31) F – interface on ADM of SDH is a _____ (a)
a) Serial interface b) Parallel interface
c) Both A or B d) None

32) QECB port of SDH element controls_____ (a)
a) Power supply moduleb) ADM module of SDH c) Both A & B d) None

33) The Ethernet port of a network element of SDH is _____ (a)
a) QB3 b) QB2 c) QECC d) None

34) Frequent adjustment of pointer produces_____ (a)
a) Low frequency jitter b) High frequency jitter c) Both A & B d) None

35) The SSU should be provided _____ (a)
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

36) As per the ITU-T's standard G 803 the number of SSUs _____ (a)
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

37) To a PRC in a trail- _____ (a)
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

38) In hold over mode the system synchronization of SDH ring can work for ___ (a)
a) 24 hours b) Less than 24 hours c) 12 hours d) Less than 12 hours

39) The T0 clock is kept locked to the selected reference _____ (a)
a) In Locked modeb) In Holdover mode
c) Both A & B d) None

40) T1 clock is a reference clock of _____ (a)
a) STM-N b) Any 2Mbps c) 64 kbps d) None

41) For traffic performance, the maximum slip rate allowed _____ (a)
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%

42) ITUT's recommendation for SDH mux is _____ (a)
a) G.709 b) G.708 c) G.707 d) G.703

43) ITUT's recommendation for SDH optical interfaces is _____ (a)
a) G.957 b) G.958 c) G.952 d) G.951

44) Jitter is the _____ (a)
a) Short-term variation b) Long-term variation c) Both A & B d) None

45) For testing of transport capability tests- _____ (a)
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

46) Clock synchronization test is conducted by _____ (c)
a) Verifying the line frequency b) Pointer activity
c) Sync status byte d) All the above

47) VC-4 is formed by multiplexing ___ TUG-3's (a)
a) 3 b) 4c) 5 d) 6

48) The input to container C4 is (d)
a) E1 b) E2 c) E3 d) E4

49) VC4 is generated by adding the POH to __ (d)
a) C1 b) C2 c) C3 d) C4

50) E1 traffic is mapped into ___ container (a)
a) C-12 b) C-2c)C-3 d) C-4

51) V Mux – 30A is equipped with the interfaces for (c)
a) Voice only b) Data only c) Both voice & Data d) None

52) In V mux – 30A Slot 13 is allotted to _____ (d)
a) Auxiliary (AUX) card
b) PCM interface (PCM I/F) card
c) Signalling Multiplexing (SMX) card
d) General maintenance alarm processor (GMAP) card

53) In V mux – 30A Slot 12 is allotted to _____ (a)
a) PCM interface (PCM I/F) card b) Signalling Multiplexing (SMX) card
c) Conference card d) Power Supply card

54) In V mux – 30A Slot 9 is allotted to _____ (c)
a) PCM interface (PCM I/F) card b) Signalling Multiplexing (SMX) card
c) Conference card d) Auxiliary (AUX) card

55) V mux – 30A has _____ numbers of routing tables (c)
a) Two b) Three c) Four d) Six

56) In V mux – 30A, a conference card can provide up to _____ simultaneous four party conferences (b)
a) 12 b) 15 c) 8 d) 10

57) In V mux – 30A, each interface card provides _____ number of channels (d)
a) One b) Two c) Three d) Four

58) In V mux – 30A Frame sync loss is a ____ alarm (a)
a) Trunk alarm b) AIS alarm c) BER alarm d) none

59) In V mux – 30A ___ alarm is a System alarm (b)
a) Local alarm b) Remote alarm c) normal alarm d) none

60) V mux – 30A is a _____ system (a)
a) Microprocessor b) Microcontroller c) Mini processord) None

61) The sub-rack of WEBFIL Mux has altogether _____ slots for housing the various modules (c)
a) 10 b) 12 c) 13 d) 14.

62) In WEBFIL mux, Slot-12 and slot-13 have equal and parallel access to time slots (c)
a) 1 & 16 b) 15 & 16 c) 30 & 31 d) None

63) In WEBFIL mux, the no of cross connect tables to be down loaded to take care of various conditions of the network are (d)
a) 4 b) 2 c) 5 d) 6

64) In WEBFIL mux , Slot 3 is allotted to _____ (b)
a) Power Supply card b) Network Interface Module
c) Tributary card d) Voice module

65) In WEBFIL mux , Slot 10 is allotted to _____ (d)
a) Power supply card b) Voice Module
c) High Speed Data Module d) Both b & c

66) In WEBFIL mux, the NMS can access the equipment through (b)
a) 9pin D- shell connector onlyb) Both RJ11 connector & 9pin D- shell connector
c) RJ 11 connector onlyd) RJ 45 connector only

67) WEBFIL Mux uses __ cross-connect table when tributary A is having a major alarm (a)
a) Faulty A b) Modified Remote A
c) Digital bypass d) None

68) In WEBFIL mux, the station ID is set in/on (c)
a) Tributary module b) Mother board c) NIM card d) None

69) In WEBFIL mux, internal/extracted clock setting is done in/on (a)
a) Tributary module b) Mother board c) NIM card d) None

70) In WEBFIL mux, the master /slave setting is done in/on (a)
a) NIM card b) Tributary module
c) Voice module d) Data module

71) In WEBFIL Mux, setting of D/I or End Terminal mode is done in/on (a)
a) Tributary module b) NIM card c) Mother board d) None

72) In WEBFIL mux, the output voltages of power supply card are (c)
a) +5V, +/- 12V, +/- 80V b) +/-5V, +/-10V, + 80V
c) +5V, +/-10V, + 80V d) None

73) In WEBFIL Mux, _____ is a system related alarm (b)
a) AIS b) Configuration error c) RMA d) BER

74) In WEBFIL Mux, during the ___ operation of the network the NMS is kept under scan mode (a)
a) Normal b) Abnormal c) Emergency d) None

75) In WEBFIL mux, ___ is a remote related alarm (a)
a) AIS b) BER c) RMA d) None

76) Nokia system is available for _____ data rates (b)
a) 2Mb & 8Mb b) 2Mb, 8Mb & 34Mb
c) 2 Mb, 8Mb, 34Mb & 140Mb d) 2Mb only

77) The Nokia system Rack consists of (c)
a) Multiplexer
b) Optical Line Terminal Equipment
c) Both Multiplexer & Optical Line Terminal Equipment
d) None of the above

78) In Nokia system Drop/Insert Mux is configured as (b)
a) DM2 b) DB2 c) DF2 d) None

79) In Nokia system 2 Mb branching can be realized using _____ card (b)
a) DM2 b) DB 2B c) DF2 d) None

80) In Nokia system, the following can be configured in DM2 with Service Terminal(d)
a) Branching of channels b) Time slot selections
c) Impedance settings d) All of the above

81) In Nokia system, the data interface card supports_____ channels (d)
a) 4 b) 6 c) 8 d) 10

82) In Nokia system, the E&M/VF card supports _____ channels (c)
a) 4 b) 6 c) 8 d) 10

83) In Nokia system each FXS card has ____ports (b)
a) 4 b) 6 c) 2 d) 8.

84) The Multiplexing system of NOKIA is configured into two types of configurations DM2 and DB2 (a)
a) 2 b) 4 c) 5 d) 3.

85) In Nokia system there are two types of loop backs in DM2 (a)
a) 2 b) 4 c) 5 d) 3.

86) In Nokia system each E & M card has ____ports (b)
a) 4 b) 8 c) 2 d) 6.

87) 2/34 Mb/s Digital MUX equipment is also known as _____ equipment (c)
a) Trans Mux b) Primary Mux c) Skip Mux d) Drop/insert Mux

88) 2/34 Mb Mux multiplexes _____ numbers of Plesiochronous 2 Mb/s bit stream into one 34 Mb/s bit stream (d)
a) 4 b) 8 c) 12 d) 16

89) In 2/34 MUX , the multiplexing principle used is (a)
a) cyclic bit interleaving b) Byte interleaving c) both a & b d) None

90) In 2/34 MUX, _____ justification is employed (c)
a) Negative b) Zero c) Positive d) None

91) In 2/34 MUX, TRF Alarm pertains to Absence of _____ (c)
a) 2Mbps tributary receive clock b) 34 Mbps input
c) 2 Mbps input d) 34Mbps tributary receive clock

92) In 2/34 MUX, HTF Alarm pertains to Absence of _____ (d)
a) 2Mbps tributary receive clock b) 34 Mbps input
c) 2 Mbps input d) 34Mbps tributary receive clock

93) In 2/34 MUX, the output voltages of power supply card are (d)
a) +5V,-5V b) +15V, +5V
c) +5V, -5V and +15 V d) +5V,-5V, +15V and -15 V

94) VMUX-0100 provides _____ Voice/Data ports in the 19” sub-rack (b)
a) 30 b) 40 c) 50 d) 60.

95) In VMUX-0100 a maximum of ___ conferences can be configured as 4-party(d)
a) 18 b) 30 c) 12 d) 08.

96) VMX -0100 shelf has _____ slots (b)
a) 13 b) 14 c) 12 d) 15

97) TME card of VMMX-0100 can be located in the slot no. _____ (c)
a) 1 b) 2 c) 3 d) Any slot

98) User Interface cards of VMUX-100 can be installed in _____ (c)
a) Slot 1 to Slot4 b) Slot 5 to Slot 10
c) Slot 5 to Slot 14 d) Any slot

99) Redundant power supply card can be installed in slot no.___ of VMUX-0100 (c)
a) 1 b) 1 and 2 c) 2 d) 3.

100) 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 (d)
a) TME b) DAC c) FXS d) LPC

101) To set the ID of VMUX-0100, an eight position DIP switch has been provided
on (d)
a) TME card b) DAC card c) FXO card d) Motherboard

102) The ID of the equipment is required for the _____ operation and forms
the address of the basic frame of VMUX-0100 (a)
a) NMS b) NMT c) E1 d) Both a & b.

103) NMS Ethernet and RS-232 connectors are located on _____ (c)
a) LPC b) Mother board c) TME d) DAC

104) In VMUX-0100, P1 LCL (ON) alarm indicates (c)
a) PCM-1 receives all 1s (AIS) b) PCM-1 frame loss
c) PCM-1 loss of signal d) PCM-1 multi frame loss

105) In VMUX-0100, P1 RMT (ON) alarm indicates (a)
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

106) In VMUX-0100, P1 LCL (Fast blinking) alarm indicates (b)
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

107) In VMUX-0100, the output voltages of power supply card are (c)
a) +5V,-5V b) +12V, +5V
c) +5V, +12V and -12 V d) +5V,-5V, +12V and -12V

108) In VMUX-0100, FXO card is_____interface (a)
a) Exchange b) Subscriber c) Hotline d) Data

109) In VMUX-0100 the data acquisition card (DAC) is required for (b)
a) HOT LINE b) Voltage Monitoring c) E & M d) Subscriber line

110) In VMUX-0100 ___ card is required for Subscriber, Loop out going and Hot line
interfaces (a)
a) FXS b) FXO c) E & M d) NIM

111) In PD- Mux, a control circuit is configured in (c)
a) Semi conference mode b) Point to point mode
c) Conference mode d) None

112) In Railways the PD-Muxes are in (d)
a) Mesh topology b) Ring topology c) Star topology d) Linear topology

113) Use of LPC card & 2 E1s at every station for all time slot protection scheme is used in (c)
a) Webfil Mux b) Nokia Mux
c) Puncom V-0100 mux d) Puncom V-Mux 30-A

114) Ring protection (using spare time slots in working E1) scheme is implemented in(d)
a) Puncom VMUX-0100 b) Webfil Mux c) Nokia Mux d) Both b & c

115) PD-mux requires __ level of input (a)
a) E-1 b) E-3 c) E-2 d) E-4

116) In 1 E1 ____number of voice/data channels can be configured (c)
a) 15 b) 20 c) 30 d) 32.

117) In 1 E1 supports _____number of time slots (d)
a) 15 b) 20 c) 30 d) 32.

118) Time slot TS-0 is reserved for (a)
a) Synchronisation b) Signalling c) Mapping d) Monitoring

119) Time slot TS-16 is reserved for (b)
a) Synchronisation b) Signalling c) Mapping d) Monitoring

120) LPC card is available in _____mux (b)
a) Webfil mux b) PUNCOM mux c) NOKIA mux d) All

12.Data Networks, WIFI Systems, IP addressing

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

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

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

5) Which topology uses a multipoint connection? (c)
(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. (b)
(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. (b)
(a) Simplex mode (b) Half duplex mode
(c) Full duplex mode (d) None.

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

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

10) _____ is a collection of many separate networks. (b)
(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)
(a) Transport (b) Application (c) Physical (d) Network

12) Mail services are available to network users through the _____ layer. (d)
(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)
(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? (b)
(a) Port (b) Logical (c) Physical (d) None

15) The __ layer is responsible for moving frames from one hop to the next (b)
(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)
(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 (b)
(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)
(a) LAN (b) WAN (c) MAN (d) PAN

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

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

21) Layer-3 in OSI model is called (c)
(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 (b)
(a) Attenuation (b) Distortion (c) Noise (d) Decibel

23) A _____ signal is a composite analog signal with an infinite bandwidth. (a)
(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? (d)
(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. (c)
(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)
(a) Polar (b) Bipolar (c) Unipolar d) All

27) In _____ the level of the voltage determines the value of the bit. (b)
(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 _____. (c)
(a) Bit transfer (b) Baud transfer (c) Synchronization (d) None

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

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

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

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

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

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

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

36) pulse code modulation technique is used in (d)
(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 (d)
(a) amplitude modulation (b) frequency modulation
(c) phase modulation (d) all

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

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

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

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

42) HDLC is an acronym for _____. (c)
(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 _____. (b)
(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 _____. (c)
(a) Back packing (b) Piggy packing
(c) Piggy backing (d) A good idea

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

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

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

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

50) What is the efficiency of 4B/5B block encoding? (b)
(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)
(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 (b)
(a) VLAN0 (b) VLAN1 (c) VLAN2 (d) VLAN3

53) VLAN can be created from ----- to ------range (c)
(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)
(a) IEEE 802.1Q (b) IEEE G.703 (c) IEEE V.35 (d) ALL

55) Power over Ethernet (POE) technology is used in (d)
(a) IP camers (b) Switches (c) Access points (d) All

56) IEEE 802.3u supports a distance of (a)
(a) 100 mtrs (b) 200 mtrs (c) 300 mtrs (d) 500 mtrs

57) In 10 base-F, 10 indicates (b)
(a) 10 kbps (b) 10 Mbps (c) 10 Gbps (d) 10 Tbps

58) In 10 base 5, 5 indicates (c)
(a) 5 mtrs (b) 50 mtrs (c) 500 mtrs (d) 5000 mtrs

59) Fast Ethernet indicates speed of (b)
(a) 10 Mbps (b) 100 Mbps (c) 1000 Mbps (d) None

60) CSMA/CA is used in IEEE standard (d)
(a) 802.3 (b) 802.4 (c) 802.5 (d) 802.11

61) Example of random access protocol (d)
(a) CSMA (b) CSMA/CD (c) CSMA/CA (d) ALL

62) Identify the class of IP address 191.1.2.3. (b)
(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(b)
(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? (d)
(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. (b)
(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. (b)
(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)
(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)
(a) Virtual circuit packet switching (b) Message switching
(c) Datagram packet switching (d) None of the above

69) A routing table contains _____. (d)
(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 _____ (d)
(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)
(a) Transient (b) Stub (c) Point-to-point (d) All the above

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

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

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

75) Dijkstra's algorithm is used to _____. (d)
(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 _____. (d)
(a) Link state routing (b) Dijkstra's algorithm
(c) Path vector routing (d) Distance vector routing

77) Dial-up modems are (c)
(a) Synchronous (b) Simplex (c) Asynchronous (d) None

78) Modem pair required for WAN connectivity over leased lines are (b)
(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)
(a) QAM + FDM (b) TDM+FSK (c) FDM+FSK (d) All

80) HDSL modem uses line coding technique (d)
(a) HDB3 (b) 2B1Q (c) Manchester (d) AMI

81) DSLAM stands for _____ (c)
(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 (b)
(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)
(a) low pass filter (b) high pass filter (c) both (d) none

84) In ADSL modem, for data transmission _____filter is used (b)
(a) low pass filter (b) high pass filter (c) both (d) none

85) Short haul modems are used when distance is upto _____ (a)
(a) 15 kms (b) 20 kms (c) 50 kms (d) 100 kms

86) Asynchronous modems uses _____modulation technique (b)
(a) ASK (b) FSK (c) PSK (d) ALL

87) Dial-up modems are WLAN Provide wireless network communication over short distances using (d)
(a) Radio signal (b) Infrared signal
(c) Ultraviolet signal (d) Both a and b

88) Access point consists of (d)
(a) built-in network adapter (b) antenna
(c) radio transmitter (d) all

89) IEEE standard for WLAN is (a)
(a) 802.11 (b) 802.2 (c) 802.3 (d) 802.10

90) Wireless Application Protocol (WAP) uses wireless communication technologies such as (d)
(a) GSM (b) 4G (c) GPRS (d) ALL

91) Access Protocol for WLAN is (c)
(a) CSMA (b) CSMA / CD
(c) CSMA / CA (d) None

92) How many character length is SSID name (c)
(a) 8 (b) 16 (c) 32 (d) 64

93) BSSID of access point is (c)
(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 (b)
(a) 0.4 GHz (b) 2.4 GHz (c) 1.2 GHz (d) None

95) The bandwidth available in 802.11a WLAN is (b)
(a) 2 Mbps (b) 54 Mbps (c) 11 Mbps (d) 108 Mbps

96) The IEEE 802.11d standare WLAN is also called as (b)
(a) Mobile wimax (b) Fixed wimax (c) bluetooth (d) none

97) WPA (wi-fi protected access) uses how many bit encryption key (d)
(a) 16 bit (b) 32 bit (c) 64 bit (d) 128 bit

98) WPA uses a message integrity check algorithm called (a)
(a) Michael (b) John (c) Antony (d) Albert

99) Wireless access points broadcast themselves using (a)
(a) SSID (b) MAC address (c) IP address (d) all

100) Default IP address of access point is (d)
(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 (d)
a) CSMA/CA b) CSMA c) OFDM d) CSMA/CD

102) Ethernet networks typically will not be found in _____ Topology (d)
a) Ring b) Mesh c) Star d) Bus

103) 100 BASE-T type of Ethernet uses _____ cable (d)
a) Coaxial b) Optical Fiber c) Switch board d) UTP/STP

104) The maximum distance supported by UTP/STP cable (a)
a) 100 Meters b) 200 Meters c) 500 Meters d) 2 KM
105) Ethernet Technology usually suffers from (b)
a) Noise b) Attenuation c) High resistance d) Broadcast/Collisions

106) 10 Base-T uses _____ cable (d)
a) Coaxial b) Optical Fiber c) FS d) UTP/STP

107) In 10 BASE-T the maximum cable run (a)
a) 100 Meter b) 185 Meter c) 500 Meter d) 5 KM

108) In 1000 BASE-SX the maximum cable run (c)
a) 100 Meter b) 185 Meter c) 500 Meter d) 2 KM

109) 10 Gigabit Ethernettype of Ethernet supplies ___ bits per second (c)
a) 1000 Billion b) 100 billion c) 10 billion d) 1 Billion

110) The length of the MAC address (d)
a) 32 bit b) 128 bit c) 16 bit d) 48 bit

111) Traditional Network Switch operate at (a)
a) Layer-2 b) Layer-3 c) Layer-1 d) Layer-4

112) The Terminal Server allows (a)
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 (d)
a) Switch b) Router c) Terminal Server d) All

114) The hardware (or) MAC address is burnt on which part of NIC (b)
a) RAM b) ROM c) Flash d) NVRAM

115) A switch controls flow of data using _____ address (b)
a) IP b) Port c) MAC d) None

116) Routers are used to connect (c)
a) Similar LANs b) Dissimilar LANs c) Different networks d) None

117) 100 BASE-TX type of Fast Ethernet runs over (a)
a) UTP/STP b) Coaxial cable c) Fiber optical cable d) Radio waves

118) In coaxial Ethernets, the transmission is (b)
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 (c)
a) Statmux b) Terminal Server c) DCM d) NeTS

120) Frequency Band of VSAT (d)
a) C–Band b) KU–Band c) Extended C–Band d) All

121) Wired Ethernet standardized under IEEE (c)
a) 802.11 b) 802.16 c) 802.3 d) 802.4

122) 1000BASE-T (Gigabit Ethernet) standardized under IEEE (b)
a) 802.3u b) 802.3ab c) 802.3z d) None

123) All 4 pairs are used in Ethernet transmission (b)
a) 10 Mbps b) >1000Mbps c) 100 Mbps d) All

124) CRC checks are done at Layer (d)
a) Layer-2 b) Layer-3 c) Layer-1 d) Layer-4

125) Collisions are totally controlled in a LAN using device (b)
a) HUB b) SWITCH c) ROUTER d) FIREWALL

126) The difference between traditional router and L-3 switch (b)
a) Router has all Ethernet ports only b) L-3 switch has all Ethernet ports only
c) Functional difference d) None

127) VSAT Topology (b)
a) Star b) Mesh c) Ring d) Star and Mesh

128) Railnet is a (c)
a) Extranet b) Internet c) Intranet d) Piconet

129) IP Addressing scheme for Railnet is (b)
a) Public b) Private c) Automatic private d) None

130) IP Address is used in Railnet (a)
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 (c)
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 (c)
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 (c)
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 (c)
a) railnet.com b) railnet.in c) railnet.gov.in d) railnet.org

135) Internet gateways of Railnet (d)
a) Delhi/Mumbai b) Kolkata c) Madras d) All

136) Railnet uses (d)
a) Dedicated leased lines b) Dialup lines
c) BSNL/VSNL isdn lines d) RAILTEL MPLS

137) FOIS stand for (a)
a) FREIGHT OPERATIONS INFORMATION SYSTEM
b) FLIGHT OPERATIONS INFORMATION SYSTEM
c) FREIGHT OPERATIONS INTERNET SYSTEM
d) None

138) FOIS network is for (d)
a) Rack management system b) Terminal management system
c) RR generation d) All

139) Architecture of FOIS network is based on (c)
a) Star topology b) Mesh topology c) Mixed (Star + Mesh) d) None

140) Applications on FOIS network on (c)
a) Master – Slave mode b) Main frame mode
c) Client – Server mode d) All

141) Back bone connectivity of FOIS network is on (d)
a) VSAT links b) 64 Kbps data lines c) 2 Mbps data lines d) All

142) Application Servers of FOIS are located at (d)
a) Divisional Hq b) Zonal Hq c) Rly Board d) CRIS / NDLS

143) The additional services provided through PRS network are (d)
a) IVRS b) POET c) Rapid display d) All

144) The PRS network is operated through nos. of regional centers. (a)
a) 4 b) 5 c) 3 d) 1

145) The main objective of PRS in Indian Railway is to provide (a)
a) reserved tickets b) un reserved tickets
c) Freight booking d) flight booking

146) CONCERT is developed by (b)
a) Rly Board b) CRIS c) Individual Railways d) IRISET

147) The main objective of UTS in Indian Railway is to provide (b)
a) reserved tickets b) un reserved tickets
c) Freight booking d) flight booking

148) UTS will provide the facility to purchase Unreserved Ticket (c)
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)
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. (b)
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)
a) 3 tiered b) 4 tiered c) 2 tiered d) 1 tiered

152) UTS can provide computerized unreserved tickets through (d)
a) hand held terminals b) smart card
c) automatic vending machines d) All

153) Application is dividing into modules (c)
a) ticketing subsystem b) fare c) UDM/TDM d) All

154) UTS back end developed using (a)
a) Sybase b) C++ c) UNIX d) All

155) The Dynamic protocol used for unification of PRS & UTS is (b)
a) RIP b) OSPF c) EIGRP d) None

156) The round trip time for smooth working between client terminal and server is (d)
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)
a) 4 – 5 % b) 100 % c) 50 % d) 90 %

158) Number of locations per area shall not exceed (c)
a) 30 b) 50 c) 70 d) 60

159) Topology used for PRS & UTS unification is (c)
a) Inverted Tree b) Partial Mesh c) Mesh d) Combination of a & b

160) UTS means (d)
a) Unit Ticketing system b) Unique Ticketing system
c) Unified Ticketing system d) Unreserved Ticketing system.

161) identify the unsecured website (c)

a) https://www.google.com b) https://sbi.bank.in/
c) http://www.rediff.com. d) https://www.rbi.org.in/

13. Video Surveillance Systems (VSS)

1) RDSO Specification of IP Based video surveillance system is (a)
a. RDSO/SPN/TC/65/2021 Revision 6.0
b. RDSO/SPN/TC/64/2019 Revision 6.0
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 (d)
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 (d)
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 (b)
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 (d)
a. RAID-2 b. RAID-3 c. RAID-4 d. RAID-5

6) Video analytical software is used in (b)
a. touch screen system b. IP based video surveillance system
c. IVRS system d. IPIS system

7) Which one is the image capturing technology (d)
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 (c)
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)
a. OFC b. CAT cable c. RG-11 cable d. None

10) Which is not the RDSO specification of layer-3 switch is (d)
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)
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)
a. 18TB b. 10 TB c. 8 TB d. 36 TB

13) Network video recorder is used in (a)
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)
a. 30 days b. 45 days c.15 days d. 60 days

15) Minimum capacity of UPS required for IP based surveillance system is (b)
a. 1 KVA b. 6 KVA c. 10 KVA d. 16 KVA

16) Online UPS configuration required for IP based surveillance system is (a)
a. N+1 configuration b. N+2 configuration
c. N+3 configuration d. N+4 configuration

17) Integrated security system consists of (d)
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 (d)
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)
a. Servers b. clients c. desktop pc d. router

20) Provision for Viewing and Monitoring of Camera streams shall be provided at(d)
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 (c)
a. non-RE area only b. RE area only
c. both a & b d. none

22) NVR (Network Video Recorder) should support (d)
a. recording b. Replay c. backup d. all

23) NVR records upto 100 Mbps of (c)
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 (d)
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)
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)
a. RG-11 b. RJ-45 c. RG-58 d. OFC

27) CAT cable supports a maximum distance of up to __ mtrs (a)
a. 100 mtrs b. 200 mtrs c.300 mtrs d. 500 mtrs

28) RG-11 cable supports a maximum distance of up to ___ mtrs (c)
a. 100 mtrs b. 200 mtrs c. 350 mtrs d. 500 mtrs

29) Type of camera installed at platforms & foot over bridge is (a)
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)
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

14.Passenger Information System (PIS)

1) Touch screen system POETs are also called as _____ (a)
a) Interactive Type information systems
b) Non interactive Type information systems
c) Both
d) None

2) LED based electronic Display boards are _____ (a)
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(b)
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)
a) Internet b) Alpha numeric display c) POET d) CCTVs

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

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

7) Touch screens are used as _____ (c)
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)
a) Absorption of acoustic waves b) voltage changes
c) frequency changes d) current changes

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

10) Network video recorders are used in _____ (a)
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)
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 _____ (d)
a) Kilo byte b) Mega byte c) Gega byte d) Tera byte

13)Digital video recorder (DVR) is used in _____ (b)
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)
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_____ (b)
a) PRS server b) NTES server c) both a & b d) none

16) PBX Switch in Call centre based IVRS is equipped with _____ (d)
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 _____ (b)
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 (b)
a) IVRS b) Call center based IVRS c) both a & b d) None

19) In IPIS switching is done by _____ (c)
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. (c)
a) Unique or Device address b) Multicast address
c) Both a & b d) IP address

21) MDCH routes the incoming signals from CCU to _____ (c)
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 _____ (d)
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)
a)RS485 b) Coaxial cable c) RS232 d) OFC

24) Data synchronization between two control consoles is through _____ (c)
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 _____ (c)
a) serially connected b) parallel connected c) daisy chained d) none

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

27) In IPIS Data speed in RS232 cable should be _____ (a)
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 (d)
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 _____ (c)
a) blue b) yellow c) white d) None

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

31) In IPIS the data speed in RS485 cable is _____ (b)
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 (b)
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)
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)
a) GPS orbiting the earth b) Master clock only
c) Real time clock only d) None

35) The backup for GPS clock is from _____ (b)
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 _____ (c)
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_____ (c)
a) Wired b) Wireless c) Both a & b d) None

38) Rail Radar is an application introduced by CRIS that enable commuters to know _____ (d)
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. (d)
a) Super fast b) Mail/Express c) Passenger d) On time

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

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

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

43) Charting server receives Chart data from ____ server via railway network. (a)
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)
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)
a) LAN Extender b) Modem c) Router d) None

46) Type of touch screen used in Indian railways for PRS enquiry. (b)
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 (d)
a) RAID -2 b) RAID -3 c) RAID -4 d) RAID -5

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

49) RDSO specification of IP based Surveillance system is (a)
a) RDSO/SPN/TC/65/2021 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)
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)
a) Watt/cm2 b) Watt/cm c) Volt/cm d) Volt/cm2

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

54) Sound pressure and sound pressure level are analogous to (a)
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)
a) Area b) Perimeter c) Volume d) none

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

57) Threshold of hearing is . (a)
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)
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)
a)Velocity b) Pressure c) Both a & b d) None

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

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

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

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

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

65) _____microphones require polarizing voltage. (a)
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)
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)
a)Frequencies b) Gain c) Voltage d) power

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

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

70) _____ type loud speaker is an indirect radiator. (a)
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)
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)
a)separate b) same c) any combination d) none

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

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

75) The minimum distance between column speakers in a row should be_____.(c)
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)
a)Amplifier b) Microphone c) Speaker d) None

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

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

79) No battery current is consumed when the ___ is working on AC mains. (a)
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. (b)
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)
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)
a)5 % b) 10 % c) 15 % d) 20 %

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

84) The mean level of sound pressure shall be ____dB above the noise level. (a)
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)
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)
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)
a)50 dB b) 100 dB c) 150 dB d) 200 dB

88) In the normal operating conditions sound pressure level is ____ dB. (a)
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)
a)Echo b) Reverberation c) Sound foci d) None

90) _____ is an accumulation of echoes. (a)
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)
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)
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)
a)Output b) Input c) Both a & b d) None

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

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

96) Auxillary port is used to connect ____ (a)
a) Tape recorder/ DVD b) TV c) Projector d) All

97) Pre amp out socket is used to connect _____ (a)
a) Tape recorder b) TV c) Projector d) All

98) Mixer is used to connect ___ device (a)
a) Input b) Output c) Both d) None

99) Horn speaker is used for ____ matching (b)
a) Impedance matching b) Voltage matching c) Both d) None

100) At railway stations _____ type of matching method is used for connecting speakers. (a)
a)Voltage b) Impedance c) Current d) Power

15.Sound Distribution System

1) How many type of amplifiers depending on the property of their output (b)
A. Two B. Three C. Four D. Six

2) ___ Amplifiers increase the amplitude of the output voltage of the signal. (a)
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)
A. Input Signal B. Output Signal C. A & B D. Output Gain

4) Which of the following are power amplifiers? (d)
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? (c)
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? (d)
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)
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. (b)
A. Small-signal B. Power C. Large-signal D. None

9) Audio Frequency Amplifiers frequencies are in the range is ____ (b)
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___ (d)
A. Radar B. Radio C. TV D. All

11) Radio Frequency amplifiers Input is ____ resistance , ____ gain (a)
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 _____ (b)
A. Level meter B. oscilloscopes C. VF repeater D. TMS Kit

13) Direct coupled or DC amplifiers are used to amplify ___ frequency signals (c)
A. Low B. High C. Very Low D. All

14) In an LC transistor oscillator, the active device is _____ (c)
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)
A. Minimum B. Maximum
C. Half-way between maximum and minimum D. None

16) An oscillator produces _____ oscillations (b)
A. Damped B. Harmonics C. Modulated D. None

17) An oscillator employs _____ feedback (a)
A. Positive B. Negative
C. Neither positive nor negative D. Both positive and negative

18) Hartley oscillator is commonly used in _____ (c)
A. Radio transmitters B. TV receivers C. Radio Receivers D. None

19) _____is a fixed frequency oscillator (d)
A. Phase-shift oscillator B. Hartely-oscillator
C. Colpitt's oscillator D. Crystal oscillator

20) In Colpitt's oscillator, feedback is obtained _____ (c)
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)
A. Its low output B. Its high Q
C. Less availability of quartz crystal D. Its high output

22) If the crystal frequency changes with temperature, we say that crystal has _____ temperature coefficient (a)
a)Positive B. Zero C. Negative D. None

23) The crystal oscillator frequency is very stable due to _____ (d)
A. Rigidity B. Vibrations C. Low Impedance D. High Impedance

24) How many phase shift oscillators are used in ___ RC sections (b)
A. Two B. Three C. Four D. None

25) In simplex communication the Trans and receive frequencies are (a)
A. Same B. Low C. High D. All

26) Simplex communication system Antenna normally connected to (a)
A. Transmitter B. Receiver C. Amplifier D. All

27) In ground wave Propagation very low frequency range is ___ (a)
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? (c)
A. Radiator B. Converter C. Sensor D. Inverter

29) Ground wave propagation Frequencies are transmitted up to __ (c)
A. 2 kHz B. 8 MHz C. 2MHz D. 8 kHz

30) _____ propagation transmit the electromagnetic signals are directed towards sky (b)
A. Ground wave B. Sky wave C. Line of sight D. space wave

31) _____ Propagation is used for long distance communication. (b)
A. Ground wave B. Sky wave C. Line of sight D. space wave

32) Directivity Of Dipole Antenna feed point impedance is ____ (c)
A. 30 Ohms B. 25 Ohms C. 72 Ohms D. 36 Ohms

33) The oscillator converts _____ (c)
A. AC to AC B.AC to DC C. DC to AC D. DC to AC

34) How many type of audio frequency amplifiers _____ (b)
A. One B. Two C. Four D. Three

35) How many type of Radio frequency amplifiers _____ (b)
A. One B. Two C. Four D. Three

36) Amplitude modulation (AM): Used in ____ frequency Transmission (b)
A. Low B. High C. MW D. All

37) Frequency modulation (FM): used in_____ Transmission. (d)
A. VHF B. UHF C. MW D. All

38) In transmitter __ converts the audio signal into electrical signal (a)
A. Microphone B. AF Amplifier C. Modulator D. None

39) Ground Plane (GP) Antenna feed point Impedance is _____ (d)
A. 30 Ohms B. 25 Ohms C. 72 Ohms D. 36 Ohms

40) Yagi Antenna feed point Impedance is _____ (b)
A. 30 Ohms B. 25 Ohms C. 72 Ohms D. 36 Ohms

16.Telephone Exchange Systems

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

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

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

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

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

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

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

8) How many channels at present in European PRI interface rate (b)
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)
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 (d)
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 (d)
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 (c)
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 – (d)
a) 2B/2Q b) 1B/1Q c) 1B/2Q d) 2B/1Q

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

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

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

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

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

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

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

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

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

23) Which is the control card in coral flexicom6000 ? (d)
a) UGW b) IDSP c) DTR d) MCP

24) Which is the switching card in coral flexicom6000 ? (d)
a) DTR b) IDSP c) MCP d) GC

25) Which is the peripheral card in coral flexicom6000 ? (d)
a) MCP b) CNF c) DTR d) SFT

26) Which is the service card in coral flexicom6000 ? (d)
a) TEM b) SFT c) SA d) DTR

27) Which is the analog subscriber card in coral flexicom6000 ? (d)
a) TBR b) TWL c) SFT d) SA

28) Which is the digital subscriber card in coral flexicom6000 ? (d)
a) TBR b) TEMc) SA d) SFT

29) Which is the analog trunk card in coral flexicom6000 ? (d)
a) SFT b) PRI c) TBR d) TEM

30) Which is the digital trunk card in coral flexicom6000 ? (d)
a) TC b) TWL c) TEM d) PRI

31) Which is the BRI card in coral flexicom6000 ? (d)
a) TWL b) TC c) TEM d) TBR

32) Which is the VoIP card in coral flexicom6000 ? (d)
a) MCP b) SFT c) IDSP d) UGW

33) Which is the DTMF tone dialing support card in coral flexicom6000 ? (d)
a) GC b) MCP c) IDSP d) DTR

34) Which is the caller ID card in coral flexicom6000 ? (d)
a) GC b) MCP c) DTR d) IDSP

35) Which is the multifunction resource card in coral flexicom6000 ? (d)
a) DTR b) IDSP c) MCP d) DRCF

36) Which card contains serial ports in coral flexicom6000 ? (d)
a) MCP b) UGW c) IDSP d) DRCF

37) Which card contains internal modem in coral flexicom6000 ? (d)
a) UGW b) GC c) MCP d) DRCF

38) What is the ringing voltage for analog phones in ISDN exchanges ? (d)
a) 75V@40 Hz b) 75V@35 Hz c) 75V@30 Hz d) 75V@25 Hz

39) Which card contains COM2 port in coral flexicom6000 ? (d)
a) UGW b) GC c) MCP d) DRCF

40) Which card contains SAU in coral flexicom 6000? (d)
a) IDSP b) UGW c) MCP d) GC

41) How many peripheral shelves are supported in coral flexicom 6000? (c)
a) 12 b) 14 c) 16 d) 18

42) How many slots are there in a peripheral shelf in coral flexicom6000?(c)
a) 14 b) 16 c) 18 d) 20

43) In which slot PB-ATS card is available in coral flexicom 6000? (c)
a) 1 b) 2 c) 1 & 2 d) 3

44) At Maximum how many shelves are controlled by 01 PB card in coral 6000? (b)
a) 1 b) 2 c) 3 d) 4

45) How many time slots are allotted for one peripheral shelf in coral flexicom6000?(b)
a) 128 b) 256 c) 512 d) 1024

46) How many time slots are allotted for each PB card in coral flexicom6000 ? (c)
a) 128 b) 256 c) 512 d) 1024

47) What is the time slot switching capacity of 32GC card in coral flexicom6000?(c)
a) 1024 b) 2048 c) 4096 d) 8192

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

49) How many IP ports are supported by a UGW card in coral flexicom6000 ? (d)
a) 254 b) 252 c) 250 d) 248

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

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

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

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

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

55) Hyper terminal default bit rate for accessing coral flexicom 6000 is (b)
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)
a) 32 GC b) MCP-ATS c) DRCF d) DTR

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

58) Which card is used for computer-telephony integration in Coral flexicom-6000 (c)
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)
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 cardin even peripheral shelf in Coral flexicom-6000 (a)
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)
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 inCoral 6000 (a)
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 (d)
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 (c)
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 ? (c)
a) 14 b) 8 c) 10 d) 12

66) Which slot contains main control card in siemens hipath 3800 exchange? (b)
a) 5 b) 6 c) 7 d) 8

67) How many pairs are wired for each slot to MDF in siemens 3800 exchange? (b)
a) 22 b) 24 c) 26 d) 28

68) How many DECT cards are supported in siemens hipath 3800 exchange? (d)
a) 1 b) 2 c) 3 d) 4

69) How many ports are there in a DECT card in siemens 3800 exchange? (b)
a) 14 b) 16 c) 18 d) 20

70) How many radio base stations are supported in siemens 3800 exchange? (b)
a) 32 b) 64 c) 256 d) 128

71) How many pairs are required to connect a base station in hipath 3800 exchange?(a)
a) 1 b) 2 c) 3 d) 4

72) How many simultaneous calls are supported by one base station in hipath3800?(c)
a) 5 b) 10 c) 16 d) 20

73) How many DECT handsets are supported in siemens hipath 3800 exchange? (b)
a) 250 b) 256 c) 254 d) 252

74) What is the radius of operation of a base station in siemens 3800 exchange? (c)
a) 100 mts b) 200 mts c) 300 mts d) 400 mts

75) How many power supply unit does siemens hipath 3800 can accommodate (c)
a) 1 b) 2 c) 3 d) 4

76) Battery power supply connected to which pin on mother board of Hi-path 3800(a)
a) X210 b) X211 c) X110 d) X100

77) What is the name of Digital BRI card in Siemens Hi-path Exchange? (a)
a) SMTD b) SLMO c) SMTO d) SLCN

78) Which card of Siemens Hipath 3800 Supports Cordless Telephone? (a)
a) SLCN b) DUIN c) SMTD d) DUIT

79) In ISDN exchange, maximum permissible line loop resistance is (a)
a) 1200 ohms b) 600 ohms c) 1500 ohms d) 1400 ohms

80) In coral 6000 exchange, control cards are in __mode of operation. (b)
a) Cold standby b) Hot standby c) Changeover d) None

17.Power Plant Systems for Telecom

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

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

3) While charging LA cell, the condition of gasing indicates that the cell is ____ (d)
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)
a. Lead peroxide b. Lead dioxide c. Lead sulphate d. Lead

5) _____is an instrument used to measure the Specific gravity of electrolyte (d)
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)
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. (d)
a. Sulphation b. Loss of Capacity
c. High density of electrolyte d. Buckling

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

9) The VRLA / SMF-LA batteries shall be charged with _____voltage. (b)
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)
a. Petroleum jelly b. Leaded greese c. Diesel d. SAE-2T oil

11) Internal short circuit in a cell is indicated by _____. (c)
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 _____. (c)
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)
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_____. (b)
a. Internal short circuit b. Sulphation
c. Loss of electrolyte d. Shedding

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

16) The electrolyte used in case of Alkaline cell is _____. (a)
a. KOH b. H2SO4 c. MnO2 d. Zn

17) The float charging voltage of a VRLA cell is_____ (b)
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 _____. (b)
a. Increases b. Decreases
c. Remains same d. Both (a) & (b) are correct

19) K-factor in LA cells indicates_____. (c)
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. (d)
a. 0 b. 15 c. 20 d. 27

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

22) Recommended type of charging for Alkaline cells is _____. (c)
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. (b)
a. Li-ion b Li-poly. c. Ni-MH d. VRLA

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

25) Rate of Trickle charging is _____ (a)
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 (c)
a. 24 b. 36 c. 48 d. 60

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

28) Inverter unit is for conversion of _____ (c)
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_____. (c)
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(b)
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, (b)
a. 1. b. 2. c. 3. d. 40

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

33) During initial charging of conventional LA cells, the voltage of cell shall be set to_____. (d)
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. (c)
a. AH capicity/5 b. AH capacity/10 c. AH capacity/15 d. AH capacity/20

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

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

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

38) In Automatic battery charger the gate pulses for SCR's is generated by ___ (b)
a. Transformer b. control circuit c. SCR d. UJT
39) The efficiency of Linear type battery charger is ___ a SMPS battery charger (c)
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)
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 (b)
a. Load b. Ballast resistor c. Battery d. Capacitor

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

43) Specification of 48VDC auto/manual battery charger for S&T equipment is _____ (b)
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)
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)
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 carried out by sensing _____ (c)
a. load voltage b. load current c. battery voltage d. battery current

47) Power plants which have the scope for modular expansion are_____ (d)
a. Thyristor controlled b. Ferro-resonant c. Linear d. SMPS

48) Solar panel used at LC gate has _____voltage (d)
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)
a. Initial charging b. Boost charging c. Triple charging d. Float charging

50) Zener diode is used as _____regulator (b)
a. Current b. Voltage c. Power d. emf

18.Accident Communication

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

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

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

4) _____Types of disaster comes under Major manmade (d)
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)
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 (c)
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)
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 (b)
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. (d)
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)
a) Mitigation b) Preparedness c) Response d) All

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

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

13) Walkie Talkie sets available with (c)
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)
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 (b)
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 (c)
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 (d)
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)
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 (c)
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(c)
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 (b)
a) 2004/ 2005 b) 2002/2003 c) 2003/2004 d) 2006/2007

22) Initial action taken as the disaster takes place is called (a)
a) Response b) Recovery c) Both d) None

23) Indian Railways was managing disaster before the forming of HLC as per rules of (a)
a) Accident manual 1992 b) Accident manual 1993
c) Accident manual 1994 d) Accident manual 1991

24) High level committee was constituted on (a)
a) September 2002 b) December 2002 c) October 2002 d) November 2002

25) Full form of NDMA is (b)
a) National Development Ministerial authority b) National Disaster Management authority
c. National Disaster Management Agency d) None

26) Full form of SPURT is (b)
a) Small Primate Un-Restrained Test b) Self Propelled Ultrasonic Rail Testing
c) School project using Rail Technology d) None

27) The first phase after disaster which is of shortest duration last for about an hour is called (a)
a) golden hour b) Good Hour c) Go Home d) None

28) Full form of ACD is (c)
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 (d)
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)
a) 23rd December 2005, b) 23rd October 2005
c) 23rd September 2005 d) 23rd November 2005

31) Portable exchange provided in ART during disaster is (a)
a. Siemens hipath 3800 b. coral 6000
c. C-DOT exchange d. none

32) Number of 5 W VHF sets provided in ART is (a)
a. 30 No's b. 45 No's c. 15 No's d. 10 No's

33) VSAT provided in ART supports __communication (d)
a. voice b. data c. video d. all

34) Frequency allotted for ART communication in 5W VHF set is (a)
a. 147.975 MHz b. 159.650 MHz c. 161.425 MHz d. 159.700 MHz

35) Bandwidth hired for disaster communication from INSAT-4CR satellite is (a)
a. 2 Mbps b. 4 Mbps c. 8 Mbps d. 34 Mbps

19.Protection of Telecom Equipment Against Lightning

1) Loop earth with connection of multiple earthed pits is opted when the achieved earth resistance is (d)
a.Less than 5 ohms b.Greater than 10 ohms
c.less than 10 ohms d.Equal to or less than 1 ohm is not attainable

2) Class B SPDs are to be provided between (d)
a.R,Y,B phases b.Neutral and earth only
c.R,Y,B phase and neutral only d.Neutral& earth and R/Y/B phase & neutral

3) Surges are caused by (d)
a.Short Circuits b.Tripping of circuit breakers and fuses
c.Lightning discharges d.All of the above

4) During Lightning, the temperature of surrounding air can raise up to (c)
a.100000 degree kelvin b.1000 degree kelvin
c.30000 degree kelvin d.300000 degree kelvin

5) During the Lightning the magnitude of surge current rises to (b)
a.1000 Amps b.10 kA-200 kA
c.10 Amps d.100 Amps

6) During Lightning, the potential difference can raise up to (d)
a.1 to 100V b.1 to 1000V
c.1 to 10000V d.1 to 10 million V

7) In 10 kA, 8/20 micro seconds, 10kA means(a)
a)Surge amplitude b)Time taken to reach peak value
c) Time taken to fall half peak value d)None of the above

8) In 10 kA, 8/20 micro seconds, 8 micro seconds means(b)
a)Surge amplitude b)Time taken to reach peak value
c) Time taken to fall half peak value d)None of the above

9) In 10 kA, 8/20 micro seconds, 2o micro seconds means (c)
a)Surge amplitude b)Time taken to reach peak value
c) Time taken to fall half peak value d)None of the above

10) The depth of an earth pit shall be about (b)
a)1.8 meters b)2.8 meters c)3.8 meters d)0.8meters

11) Lightening protection zone LPZ 0A means (a)
a.Direct strikes- Full lightening current & full magnetic current
b.No direct strikes-Partial lightening or induced current-full magnetic field
c.No direct strikes-Partial strikes or induced current-Damped magnetic field
d.No direct strikes-Induced current-Further damped magnetic field

12) Lightening protection zone LPZ1 means (c)
a.Direct strikes- Full lightening current & full magnetic current
b.No direct strikes-Partial lightening or induced current-full magnetic field
c.No direct strikes-Partial strikes or induced current-Damped magnetic field
d.No direct strikes-Induced current-Further damped magnetic field

13) Electrode to earth resistence depends on (c)
a)Soil resistivity b)Geometry and size of electrode c)Both a & b d)None of the above

14) Methods of reducing earth resistance are (d)
a)By adding salt, charcoal and sand mixture to pit b)By adding earth enhancement material
c)By using a bigger grounding electrode d)All of the above

15) What happens if we use <20kg of bentonite clay in maintenance free earth pit with one plate electrode(c)
a)We will get earth resistance of <1ohm intially
b)Resistance value will increase as time prolongs
c)Both a&b
d.None of the above

16) Ring earth system consists of (d)
a)Equipotential bonding of earth electrodes planted externally outside the building as a ring
b)Provision of equipotential bus bar or eing inside equipment room
c)Joining the external and internal rings
d)All of the above

17) International Electrotechnical Commission (IEC) headquarters located at (c)
a)Newyork, USA b)Moscow, Russia
c)Geneva,Switzerlandd)Rome, Italy

18) RDSO specifications for earthing systems in S&T installations is (b)
a).RDSO/SPN/197/2017 b).RDSO/SPN/197/2008
c)RDSO/SPN/350/2017 d)RDSO/SPN/350/2008

19)Which of the following methods are used for earth resistance measurement (d)
a.Fall of potential method
b.Dead earth method
c.Clamp on test method
d.All of the above

20)In fall of potential method of earth measurement, if distance between actual earth electrode and current reference electrode is 100feet, then what is the distance between actual earth electrode and potential reference electrode (b)
a.50feet
b.62feet
c.102feet
d.200feet

21)The earth electrode should be of minimum diameter---and length of-----(a)
a)17mm diameter and 3m long
b)10mm diameter and 3m long
c)10mm diameter and 1m long
d)10mm diameter and 3m long

22)Eath pit hole should be of minimum diameter (b)
a)10mm to 25mm
b)100mm to 125mm
c)50mm to 100mm
d)50mm to 75mm

23)Type of welding method used for joining main earth electrode to the main equipotential earth bus bar is (c)
a)Mechanical welding b)Laser beam welding c)Exothermic welding d)None of the above

24)In ring earth system, the distance between two consecutive earth electrodes should be minimum of (b)
a)1m b)3m c)6m d)10m

25)In ring earth system, the distance between two consecutive earth electrodes should be maximum of (c)
a)1m b)3m c)6m d)10m

26)RDSO Specification for surge protection devices for telecommunication equipments is (a)
a)RDSO/SPN/TC/98/2011 b)RDSO/SPN/TC/186/2018
c)RDSO/SPN/TC/98/2020 d)RDSO/SPN/TC/186/2020

27)Separation between AC mains earth and telecom earth should be of minimum (d)
a. 2 m b.3m c.5m d.10m

28)Protection of equipment near DC power supply at heavy lightening prone areas and power distribution board shall be ensured by using (c)
a.Avalanche diode b.LC Network c.Both a & b d.None of the above

29)Three stage protection provided at the line side of electronic telephone exchanges are (d)
a.Fuse b.GD tube c.MOVR d.All of them

20.Painting of Telecom Installations

1)Why painting of telecom installations is important? (d)
a. It acts as a protective barrier between the equipment casing and the corrosive environment
b.It provides good aesthetics
c. Ensures it's long-life
d.All of the above

2)The main telecommunication equipment that needs frequent painting are (d)
a. Antenna towers
b.Emergency telephone socket posts and socket box
c.Outdoor telecom items made of metallic case exposed to rains and direct heat
d.All of the above

3)Emergency telephone socket posts shall be painted with (b)
a.alternatively black and silver paints for10cm length each
b.alternatively black and white paints for 15 cms length each
c.alternatively black and white paints for 10 cms length each
d. alternatively black and yellow paints for15cm length each

4)Marking on OHE masts for the position of telecommunication cable joints and Emergency Socket post where available is to be of (c)
a.Yellow colour
b.Black colour
c.Red colour
d.Orange colour

5) Under normal weather conditions, paintings on the emergency telephone socket posts and on OHE masts for cable joints and emergency socket where available shall be done (a)
a.once in a year
b.once in 6 months
c.once in 2 years
d.once in 3 years

6)Telecom Towers are to be painted as per the requirement of (c)
a.Telecommunication department
b.Railway department
c.Civil& Aviation department
d.None of them

7)Every telecommunication tower shall be painted with (a)
a.International orange and international white colours alternatively each with 5 meter band, starting with international orange at the top
b. International orange and international white colours alternatively each with 5 meter band, starting with international white at the top
c. International red and international white colours alternatively each with 5 meter band, starting with international white at the top
d.None of them

8)Under normal weather conditions, repainting of telecommunication towers to be done once in every (c)
a.1 year
b.3 years
c.5 years
d.10 years

9) RCC cable Route markers of 6 quad cable are to be painted with(c)
a.White
b.Black
c.Red
d.Green

10) At cable joints, RCC cable markers of 6 quad cable are to be painted with(d)
a.White
b.Black
c.Red
d.Green

11)Letters on earth pits should be should with (a)
a.yellow paint with black background
b.Black paint with yellow background
c.Red paint with black background
d.Black paint with red background

21.Knowledge of Drawings & Specifications

1)Full form of IRS-TC (b)
a.International Research Specifications-Tele Communication
b.Indian Railway Standard drawings-Tele Communication
c.International Research Standards-TelecCommunication
d.None of the above

2)In addition to the standard drawings, every telecom office should have the following copies of (d)
a.Cable route plan of section,
b. Network Diagram of circuits configured along with protection path for all important channels
c.Chart indicating the exact location of the emergency telephone socket post indicating distance from nearby OHE mast
d.All of the above

3)Specifications for material and equipment used for telecommunication purposes have been drawn out by (b)
a.IRISET
b.RDSO
c.Railway Board
d.Zonal Railway

4)Full form of RDSO (d)
a.Research Designs and Specifications Organisation
b Research Drawing and Specifications Organisation
c.Railway Drawing and Standards Organisation
d. Research Designs and Standards Organisation

5)RDSO is located at (c)
a.New Delhi b.Bengaluru c.Lucknow d.Hyderabad

6) In IR Specifications, IRS-TC.41-97, 41 indicates (c)
a.Year of adaption or revision
b.Revision number
c.Serial number
d.All of them

7) In IR Specifications, IRS-TC.41-97, 97 indicates (a)
a.Year of adaption or revision
b.Revision number
c.Serial number
d.All of them

8) RDSO SPN indicates (b)
a. a specification which is approved as a standard
b. a specification which is under modification/updation stage
c. a specification which is reissued
d. None of them

9)Telecom cable shall be laid in _____pipes for a length of _____on either side of TSS (a)
a.RCC pipes & 300mtrs
b.HDPE& 200 mtrs
c.Troughs& 200 mtrs
d.GI pipes & 200 metres

10)The normal depth of the trench for Telecom Cable is (d)
a.1.8 metres
b.1.5 metres
c.2 metres
d.1 metre

11)All new Telecom cables shall be laid close to (c)
a.Near FP/TSS
b.Near watering bodies
c.Near the railway boundary
d.Near the track

12)On each side of major girder bridge a cable reserve of ____ meters to be provided(d)
a.15 mtrs
b.5 mtrs
c.20 mtrs
d.10 mtrs

13)On each side of minor bridge a cable reserve of ____ meters to be provided (d)
a.7 mtrs
b.6 mtrs
c.4 mtrs
d.5 mtrs

14)A cable reserve of __ meters to be provided at every joint loop (a)
a.3 mtrs
b.5 mtrs
c.4 mtrs
d.2 mtrs

15)A cable reserve of __ meters to be provided near track crossing(b)
a.3 mtrs
b.2.5 mtrs
c.5 mtrs
d.10 mtrs

16)What is the minimum distance to be maintained between the OHE masts and the cable(b)
a.6.75mtrs
b.5.75 mtrs
c.5.00 mtrs
d.6.00 mtrs

17)The widely used cable laying method for U/G cables is (c)
a.Drawing through ducts
b.Laying in PVC pipes
c.Laying solid
d.Laying direct in the ground

18)The cable route indicators are to be placed at every___meters on normal path (a)
a.50 mtrs
b.60 mtrs
c.100 mtrs
d.70 mtrs

19)The width of cable trench should be of minimum (a)
a.300mm
b.500mm
c.1000mm
d.100mm

20) In places where underground pipes, electric mains etc. come in the way of telecom trench, which of the following precautions should be followed (d)
a. trench deeper than one meter shall be dug as necessary
b. HDPE pipes shall be placed to protect the telecom cables
c. No precaution is required
d. Both a&b

21)When there is crossing of telecommunication cable with another cable, the following precautions to be made (c)
a.Cable should be laid in cement or asbestos cement pipes
b.Length of pipe to be provided on either side of the crossing shall be at least one meter
c.Botha&b
d.None of them

22) When telecommunication cable and L.T power cable/ Signalling cable have to be laid in the same trench , the following precautions to be made (c)
a. they should be separated by placing a layer of brick between them vertically
b. they should be laid in HDPE pipe
c. Both a & b
d.None of them

23)Cable route plan should also to be approved by (d)
a. Electrical department
b. Engineering department
c. Branch officer of S&T department(open line)
d. All of them

24)For undertaking digging works in the vicinity of underground signalling, telecom, electrical cables, engineering department should follow the instructions mentioned by (b)
a.RDSO specifications
b.Joint Procedure Order made by S&T,Electrical,Engineering departments
c.Station Working Rules
d.DRM

25)Integrated cable path diagram consists of (d)
a. Offsets of signals, signal cables, cable joints
b. Offsets of telecom cables, joints, EC socket locations
c. Offsets of cables at track crossings, RCC, HDPE duct locations
d. All of the above

22.Establishment & Stores

1) Function of an item remaining constant, If the cost decreases, Its value will (a)
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)
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)
a) Member (Material Management) b) Member (Staff)
c) Member (Elec) d) Financial Commissioner

4) Economic order quantity (EOQ) is determined by optimising between (b)
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 (b)
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)
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 (c)
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 (d)
a) 20 lakhs b) 40 lakhs c) 25 lakhs d) 10 lakhs

9) Indian Railways stores code is in how many volumes (c)
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 (b)
a) 80,000 b) 4,00,000 c) 5,00,000 d) 8,00,000

11) Special Limited Tender is one where (b)
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 (b)
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 (d)
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 (c)
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 (c)
a) 50% b) 60% c) 70% d) 90%

16) EOQ is the quantity at which (d)
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)
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 __ (c)
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)
a) Open tender b) Limited tender
c) Single tender d) Bulleten tender

20) In a PL No., the first two digits indicate _____ (a)
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 (b)
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 (c)
a) Dead surplus b) Custody stores
c) Movable surplus d) imprest stores

23) In "ABC" analysis, "A"category item represents (c)
a) Low consumption value item b) Important item
c) High annual consumption value item d) high cost item

24) Buffer stock limit depend on ____ (c)
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)
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 (b)
a) 1500 Nos b) 1000 Nos c) 500 Nos d) 2000 Nos

27) In V- E- D analysis, V stands for (b)
a) Vague items b) Vital items
c) Very important items d) Very costly items

28) Indication of value in the demand is necessary (d)
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 (b)
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 _____ (c)
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)
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 (c)
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 (c)
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)
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)
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 (c)
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)
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)
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)
a) S1539 b) S1605 c) S1622 d) None of the above

52)Full form of WRIIL (a)
a)Work related Illness and Injury Leave
b)Work related Inspection and Investigation Leave
c)Work related Inaguaration and Inspection Leave
d)Work response Illness and Injury leave

53)The period of Extra Ordinary Leave and salary mode during EOL is (b)
a)3years & full salaryb)5 years & no salary
c)3years & half salaryd)5 years & full salary

54)Study leave for staff other than medical CHS officers & minimum service required to avail study leave is (b)
a)24 months & 3 yearsb)24 months & 5 years
c)12 months & 3 yearsd)12 months & 5 years

55)A female Railway employee with less than two surviving children may be granted maternity Leave for a period of _____days from the date of its commencement (c)
a.135 daysb.240 daysc.180 daysd.120 days

56)After retirement a charge sheet can be issued only by the (b)
a.GM
b.President of India
c.Chief Personnel Officer
d.Controlling Officer

57) As per 7th Central Pay Commission recommendations, the revised rates of allowances have come into effect from (c)
a.01.01.2016
b.01.07.2016
c.01.07.2017
d.01.01.2017

58)As per Hours of work and Periodic Rest Rules full night means (c)
a.10 PM to 8 AM b.8 PM to 6 AM
c.10 PM to 6 AM d.6 PM to 6 AM

59)Candidates recruited to Group-C post in Railways and undergoing initial training can be sanctioned _____ days leave in a year with full stipend (d)
a.20 days b.45 days c.30 days d.16 days

60)Employees Compensation Act provides ____for Injury/Death by accident on duty(b)
a.Treatmentb.Compensation
c.Convictiond.None

61) Employer is not liable for compensation, if injury is due to (b)
a.Willful disobedience of rulesb.All the Options
c.Willful removal of safety gadgetsd.Influence of drinks/drugs

62)Following married daughter is eligible to be included in Privilege pass. (b)
a.Any age b.Not eligible
c.Below 18 Yrs d.Below 21 Yrs

63)Full form of PREM is (a)
a.Participation of Railway Employees in Management
b.Participation of Railway Employees in Modernization
c.Participation of Railway Employees in Maintenance
d.Participation of Railway Employees in Manufacturing

64) How many days of joining time is permissible if the distance between old station and new station is 1000 Kms or less and between 1000km and 2000km respectively are (b)
a.10 & 15 daysb.10 & 12 days
c.12 & 15 daysd.20 & 30 days

65) If both Wife & Husband are employed in Railways, _ for availing privilege passes of their account (c)
a.All free passes eligibleb.All PTO eligible
c.Both are eligibled.Any one is eligible

66) In addition to CL, how many days of Special Casual Leave is admissible to the employees with disabilities as an additional benefit (c)

a.5 daysb.3 daysc.4 daysd.2 days

67) In the year of appointment, LAP shall be credited to the leave account of an employee at the rate of _____ days for each completed calendar month of service.(c)
a.5b.4c.2 ½d.0

68) Maximum amount of gratuity shall not be more than (c)
a.60 Lakhsb.40 Lakhsc.25 Lakhsd.30 Lakhs

69) Maximum number of dependents can be included in a pass/PTO is (a)
a.2b.4c.1d.3

70) Minimum pension as per 7th CPC is (b)
a.3500b.9000c.4500d.7000

71) No Railway Servant shall be granted leave of any kind for a continuous period exceeding (d)
a.2 Yearsb.4 Yearsc.3 Yearsd.5 Years

72) NPS has come into effect from (b)
a.01.04.2004b.01.01.2004
c.01.01.2014d.01.04.2014

73) Penalty of compulsory retirement, removal or dismissal from service should be imposed only by (c)
a.Noneb.Disciplinary Authority
c.Appointing Authorityd.Controlling Officer

74) Period of Retention of Railway Quarters on account of missing of Railway Servant is upto_____ Months.(c)
a.24b.Nonec.36d.12

74) PREM meetings at Railway Board level is chaired by (a)
a.CRB
b.Member Traction
c.Member Staff
d.Member Rolling Stock

75) Railway Servant with minimum _____ of qualifying service is entitled for Voluntarily Retirement, by giving three months advance notice.(c)
a.10 Years
b.30 Years
c.20 Years
d.33 Years

76) The no. of privilege passes eligible for a Non Gazetted Railway employee having six years of service is_____ sets per year (d)
a.2 Setsb.1 Setc.4 Setsd.3 Sets

77) The validity of privilege passes (a)
a.4 Monthsb.5 Monthsc.1 Monthd.2 Months

78) The validity of Privilege Ticket Order (P.T.O) is (b)
a.1 Monthb.4 Monthsc.5 Monthsd.2 Months

79) Under NPS, Govt. will make a contribution @ _____ of Pay+DA to the Tier 1 Account every month (d)
a.12%b.10%c.16%d.14%

80) Under UPS, Govt. will make a contribution @ _____ of Pay+DA to the account every month (c)
a.14%b.18.5%c.10%d.12.5%

81) What is the percentage of LDCE Quota for promotion from Group-C to Group-B post? (a)
a.30%b.20%c.50%d.25%

82) Which authority can make a cut in pensionary benefit? (a)
a.President of Indiab.GM
c.Noned.Rly. Board

83) Which of the following is not termed as penalty under DAR 1968? (b)
a.Noneb.Suspension
c.Censured.Withholding of Promotion

84) Which penalty does not effect for promotion (b)
a.Reduction in postb.Stoppage of pass/PTO's
c.Noned.Dismissed from service

85) Full form of HRMS (b)
a.Human Resource Management Service
b.Human Resource Management System
c. Human Resource Material System
d. Human Resource Material Service

86)The following data can be accessible for an employee through HRMS (d)
a.Biodatab. Pass, PTOc.Leaved.All of the above

23.Official Language

1) What is the Official Language of Union of India? (d)
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 (c)
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 (b)
a) 11 b) 14 c) 15 d) 16

4) When was Official Language Act 1963 passed (a)
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 (c)
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 (c)

a) 1965 b) 1966 c) 1967 d) 1968

7) When was Official Languages Rules passed (d)
a) 1963 b) 1964 c) 1973 d) 1976

8) When was Official Languages Rules amended (a)
a) 1987 b) 1988 c) 1963 d) 1965

9) Into how many Regions Indian states have been classified, according to official Languages Rules (b)
a) 2 b) 3 c) 4 d) 5

10) What are all the 3 Regions as classified under Official Languages Rules (d)
a) A & B b) B & C c) A & C d) A, B & C

11) When "Hindi Day" is celebrated every year? (a)
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 (c)
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 (d)
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 (b)
a) B b) C c) A & B d) B & C

15) Which Ministry takes important decisions pertaining to Official Language (b)
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 (c)
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)
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) (d)
a) President b) Home minister
c) External affairs minister d) Prime Minister

19) The Central Hindi Samiti (Committee) comes under which Ministry (c)
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 (b)
a) external affairs b) Education c) home d) Culture

21) How many members are there in the Parliamentary Committee on Official Language (c)
a) 10 b) 20 c) 30 d) 35

22) How many Lok Sabha members are there in the Parliamentary Committee on Official Language (b)
a) 10 b) 20 c) 30 d) 32

23) How many Rajya Sabha members are there in the Parliamentary Committee on Official Language (d)
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)
a) 3 b) 7 c) 8 d) 10

25) Which Sub-Committee of Parliamentary Committee on Official Language inspects the offices of Railway Ministry (b)
a) 1st b) 2nd c) 3rd d) none

26) What is the periodicity of the meetings of Official Language Implementation Committee is once in (c)
a) 1 b) 2 c) 3 d) 6

27) Which Ministry prepares Annual Programs on Official Language (b)
a) Railways b) Home c) Defense d) Broad casting

28) The Question Papers of departmental examination must be provided in which language (d)
a) Hindi b) Regional c) no such norms d) Hindi & English

29) How many Hindi courses are prescribed for Central Govt. employees (d)
a) Prabodh b) Praveen c) Pragya and Parangat d) All

30) Which is the elementary Hindi course prescribed for Central Govt. employees (c)
a) Pragya b) Praveen c) Prabodh d) Parangat

31) Which is the final Hindi course prescribed for Central Govt. employees (a)
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)
a) All b) Regular
c) Intensive d) Correspondence & Private

33) What is the duration of each Hindi course? (Except Intensive Training) (d)
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 (b)
a) 1 b) 2 c) 3 d) 4

35) What are all the months in which Hindi examinations are usually conducted (c)
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 (b)
a) 20 b) 25 c) 30 d) 35

37) In how many Working days Praveen course is conducted under Intensive Training (a)
a) 20 b) 25 c) 30 d) 35

38) In how many working days Pragya course is conducted under Intensive Training (c)
a) 7 b) 10 c) 15 d) 20

39) When will an employee become eligible for Cash Award after passing Hindi Examinations (c)
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 (c)
a) Rs 400 b)) Rs 600 c) Rs 800 d) Rs 1200

41) What are all the incentives given for passing Hindi Examinations (c)
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)
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 (b)
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 (c)
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 (d)
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)
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 (d)
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 (c)
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 (b)
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)
a) Rs 2400 b) Rs 1800 c) Rs 1600 d) Rs 1200.

SATHISH SANKAR PAMARTHI
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Date: 2025.09.28 16:46:14 +05'30'

(Sathish Sankar P)
Sr DSTE/BZA

RATNAKAR GADDAM
Digitally signed by RATNAKAR GADDAM
Date: 2025.09.28 17:49:10 +05'30'
Adobe Acrobat Reader version: 2025.001.20693

(Ratnakar G.)
Sr DSTE/GNT