



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)/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.

दक्षिण मध्यरेलवे
South Central Railway



e-No. 156622

PCPO/SC

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

Date: 03/10/2025

(Kind Attn: APO/Cadre)

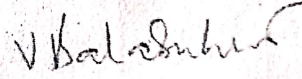
Sub: Selections – CBT mode in departmental promotions.

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)
ASTE/T/HQ
for PCSTE

दक्षिण मध्य रेलवे
South Central Railway



75
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

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वमंसिवदूरसंडं/समन्वय/विजयवाडा/Sr.DSTE/B
ZA

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

दक्षिण मध्यरेलवे
South Central Railway



e-No. 156622

प्रमुख मुख्य सिगनल एवं दूरसंचार इंजीनियर कार्यालय
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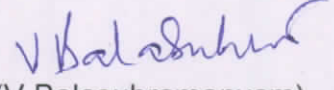
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(V.Balasubramanyam)
ASTE/T/HQ
for PCSTE

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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 c) Traction Power Controller
 b) Deputy Chief Controller d) Traction Loco Controller
- 89) Remote control works on _____ principle. **(b)**
 a) WPA c) PTCC
b) SCADA d) DTMF
- 90) Name any one control circuit used only in RE sections. _____ **(c)d**
 a.) Section Control b) Traction Power Control
 c.) Emergency Control **d) All**
- 91) The Radio patch connection is taken from Buffer _ in Indisco equipment. **(a)**
 a) 2 c) Both A & B
 b) 1 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) 200M Ω b) 100M Ω c) 400M Ω d) 500M Ω
- 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) 28 Ω /km b) 56 Ω /km c) 58 Ω /km d) 26 Ω /km
- 12) The characteristic impedance of a 6 quad cable is ____ **(d)**
a) 600 Ω b) 1120 Ω c) 56 Ω d) 470 Ω
- 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) 470:1120 c) 1120:1120 d) 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 c) 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. Interference 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

- 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 (P1 and P2) (c)

- a. $dB = P2/P1$ b. $dB = \log_{10} (P2/P1)$
c. $dB = 10 \log_{10} (P2/P1)$ 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 to 167.95MHz c. 3MHz to 30MHz d. None of the above

105) Transmission type used in VHF Set is (b)

- a. Duplex b. Half-Duplex c. Simplex d. 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 Service 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) Secunderabad c) Both a & 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. Connects eNodeB 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)
aAutomatic 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, at least 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 standby c. 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. HBL b. Medha c. Kernex d. 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) Kolkata d) 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) FOIS c) 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) $E = mc^2$ b) $E = M/C^2$ c) $M = EC^2$ d) $M = E/C^2$
- 4) Speed of light in vacuum 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) Ferrules 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 unaffected d) Ghost reflection 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 reflection 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)
- Before laying at 1310nm, and after laying at 1550nm
 - Before laying at 1550nm, and after laying at 1310nm
 - At both wave lengths before as well as after laying
 - At both wave lengths Before laying only
- 49) Light emission can occur through (c)
- Spontaneous emission
 - Stimulated emission
 - Both of a & b
 - None of a & b
- 50) The main Requirements of Optical sources include (d)
- Spectral width & Directivity
 - Output Power & Output wave length
 - Linearity and Reliability
 - All of the above a, b, & c
- 51) The quantum efficiency of an optical source is defined as (a)
- It is the ratio of no. of photons generated & no of carriers crossing the junction
 - It is the ratio of no. of carriers crossing the junction & no. of photons generated
 - It is the ratio of no. of carriers generated & no. of photons crossing the junction
 - It is the product of no. of photon generated & no. of carriers crossing the junction
- 52) Optical sources include (d)
- LEDs only
 - LASER only
 - LASERS, LEDs and APDs
 - Both of a & b
- 53) Photo detectors include (a)
- PIN diode and APDs
 - APDss and MSMs
 - APDs, PIN diodes, & MSMs
 - None of the above a,b& c
- 54) The system up gradation in optical fiber links does not require change in ____.(a)
- Amplifiers
 - regenerators
 - optical mux
 - none
- 55) System up gradation requires replacement of regenerators in optical fiber links(a)
- regenerators
 - Amplifiers
 - optical mux
 - none
- 56) Link power budget analysis is to be performed to ensure____ (b)
- Sufficient system operation margin
 - Link operational feasibility
 - Minimum power available at the receiver
 - All of the above a,b& c
- 57) The reasons for keeping system margin is/are_____ (d)
- Future cable cuts and subsequent losses
 - Aging effects
 - Environmental degradations
 - All of the above a,b& c
- 58) Basic scenarios to be considered in PBA (Power Budget Analysis) (d)
- the receiver and Optic fiber system is decided, then what transmitter minimum power would be needed?
 - Maximum receiver power under minimum loss conditions
 - In existing system, how much we could lengthen the fiber without changing the transmitter, receiver and still meet the minimum power requirement of receiver
 - All of the above a,b& c
- 59) An optical Tx is emitting power at 0dBm which is equivalent to_____ (a)
- 1mWatt
 - 1 micro Watt
 - 1Watt
 - 0 Watt
- 60) A Loss of 10 dB implies _____ (b)
- 10% of power has been lost
 - 90% of power has been lost
 - 10 watts power lost
 - 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) $(t_r)_{SYSTEM} = [\{t_r(Tx)\}^2 + \{t_r(fiber)\}^2 + \{t_r(Rx)\}^2]^{0.5}$
 b) $(t_r)_{SYSTEM} = [\{t_r(Tx)\}^{0.5} + \{t_r(fiber)\}^{0.5} + \{t_r(Rx)\}^{0.5}]^2$
 c) $(t_r)_{SYSTEM} = [\{t_r(Tx)\}^{1.2} + \{t_r(fiber)\}^{1.2} + \{t_r(Rx)\}^{1.2}]^{0.5}$
 d) $(t_r)_{SYSTEM} = [\{t_r(Tx)\}^2 + \{t_r(fiber)\}^2 + \{t_r(Rx)\}^2]^2$
- 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) 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 armour 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.All d.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.RIPv2

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 a 4-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 a 4-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-bit IPV4 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 vendors 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 within 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 500 μ s is used for _____ (a)
a) Negative justification b) Positive justification c) Both A or B d) 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 flow 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 module b) 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 mode b) 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) 4 c) 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-2 c) 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 only b) Both RJ11 connector & 9pin D- shell connector
c) RJ 11 connector only d) 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) Manchester (d) AMI
- 35) Example of bipolar line coding is (b)
 (a) 2B1Q (b) HDB-3 (c) Manchester (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 cameras (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 standard 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 Ethernet type 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 Ethernet, 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) IRISSET
- 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 , 8Ω 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 180° 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 data 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 card in
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 in Coral 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 gassing 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 grease 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 electrolyte
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. Availability of cell capacity at different loads
b. Availability of cell capacity at different Temperatures
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 capacity/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 casualties 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 minutes
- 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 minutes

- 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 minutes
- 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 minutes
- 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

- 1) Loop earth with connection of multiple earthen 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 resistance 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. MOV 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-Telecommunication
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. IRISSET
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

- 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

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- 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

a) 1500 Nos b) 1000 Nos c) 500 Nos d) 2000 Nos

a) Vague items b) Vital items
c) Very important items d) Very costly items

- 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)

a) Inactive item b) Scrap item
c) Over stock item d) Emergent stock item

a) 01.01.19 b) 10.02.19 c) 01.03.19 d) 01.04.19

a) Ordinary stock item b) Emergent stock item
c) Regular item d) Non stock item

- 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

- Chief Material Manager
- Controller of Stores
- Principal Chief Material Manager
- Chief Controller of Stores & Purchases

a) Open tender only
b) Single tender
c) Bulletin tender
d) Open or special limited tender

- Estimated value of purchase
- Value of the case as per highest offer
- Value of the case as per lowest offer
- None of the above

a) Single tender
b) PAC Offer
c) Single offer
d) late offer

a) Single firm only
b) RDSO approved firms only
c) Approved firm only
d) None of the above

a) Advice note for returned stores
b) Requisition
c) Minus issue note
d) Indent

a) S1539 b) S1605 c) S1622 d) None of the above

- a) Work related Illness and Injury Leave
- b) Work related Inspection and Investigation Leave
- c) Work related Inauguration and Inspection Leave
- d) Work response Illness and Injury leave

a) 3 years & full salary b) 5 years & no salary
c) 3 years & half salary d) 5 years & full salary

a) 24 months & 3 years b) 24 months & 5 years
c) 12 months & 3 years d) 12 months & 5 years

a. 135 days b. 240 days c. 180 days d. 120 days

- GM
- President of India
- Chief Personnel Officer
- Controlling Officer

a.01.01.2016
b.01.07.2016
c.01.07.2017
d.01.01.2017

a. 10 PM to 8 AM
b. 8 PM to 6 AM
c. 10 PM to 6 AM
d. 6 PM to 6 AM

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. Treatment b. Compensation
c. Conviction d. None
- 61) Employer is not liable for compensation, if injury is due to (b)
a. Willful disobedience of rules b. All the Options
c. Willful removal of safety gadgets d. 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 days b. 10 & 12 days
c. 12 & 15 days d. 20 & 30 days
- 65) If both Wife & Husband are employed in Railways, _ for availing privilege passes of their account (c)
a. All free passes eligible b. All PTO eligible
c. Both are eligible d. 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 Lakhsd.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

- 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

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
(Sathish Sankar P)
Sr DSTE/BZA

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