

**Feedback received from members on various ambiguity in questions and options w.r.t. provisional answer key provided by BSNL (Paper-1, Advance Technical paper –General)**

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**Q.2 what is maximum bit rate in Basic Rate ISDN connection?**

- |    |          |    |           |
|----|----------|----|-----------|
| A. | 128 Kbps | C. | 384 Kbps  |
| B. | 144 Kbps | D. | 2048 Kbps |

Answer marked in Provisional key supplied by BSNL is-B (144 Kbps)

**Explanation of Ambiguity:** there are three possible answers

1. Maximum bit rate in Basic Rate ISDN connection including basic channel bits (2B=64 Kbps) + data channel bits (D=16 kbps) + synchronisation and framing bits (=48 kbps) is **192 Kbps**.
2. If we exclude synchronisation and framing bits (=48 kbps) it is **144 Kbps**.
3. If we exclude data channel bits it is **128 Kbps** which is actually available to the customer in Basic Rate ISDN connection.

As 192 Kbps is not available in answer which is most appropriate. In the absence of clarity in the question next is 144 kbps which is given in BSNL key also but if we read question no-60 in the same paper which is as follow:

**What is maximum possible bit rate in GPRS**

- |    |           |    |          |
|----|-----------|----|----------|
| A. | 115 Kbps  | C. | 13 Kbps  |
| B. | 14.4 Kbps | D. | 104 Kbps |

Answer given in BSNL Key is 115 kbps which is actually available to customer although it is 171.2 Kbps. Here meaning of **maximum bit rate** is considered which is actually available to the customer.

As both the question are available in same question paper one can not differentiate the meaning of **maximum bit rate** hence in case of question under subject most appropriate answer is **128 kbps**.

**Request:** question is not clear and there are two possible answers available in option as explained above hence considering the ambiguity in question full mark should be awarded to all examinees.

**Q.3 to know the Line Parameters, the command in E-10B is**

- |    |         |    |                   |
|----|---------|----|-------------------|
| A. | TST-TRM | C. | ABESEL            |
| B. | FSCCR   | D. | None of the above |

Answer marked in Provisional key supplied by BSNL is-C (ABESEL)

**Explanation of Ambiguity:** there is no such command in E-10B the correct command is ABSEL (instead ABESEL). In this situation the examinee who has deeply studied the question can opt correct answer as D (None of the above) but it those who have considered it as a spelling mistake can opt C (ABESEL).

**REQUEST:** this not the English language paper hence option with spelling mistake should have not been given which can confuse the examinee and there are two possible answers available in option as explained above hence considering the ambiguity in question full mark should be awarded to all examinees.

**Q.5 which of the following is true in case of E-10B?**

- A. it supports CCITT#7 signalling
- B. it supports Digital Subscribers
- C. it supports Remote Switching Unit
- D. it has Digital Switching

Answer marked in Provisional key supplied by BSNL is-D (it has Digital Switching)

**Explanation of Ambiguity:** RLU of E-10B can not work in stand alone mode in other words Remote Switching mode hence it is right to say that RLU can not support remote switching but it is wrong to say that E-10B can not support remote switching **unit**. There is clear difference in **remote switching** and **remote switching unit**. RLU of E-10B is itself remote switching unit having T-stage switching which is well supported by E-10B exchange. If in option C it would have been given "**it supports remote switching**" instead "**it supports remote switching unit**" then only one answer is possible i.e D (it has Digital Switching) but in this case answer C (it supports Remote Switching Unit) also true.

**Request:** there are two possible answers as explained above i.e. C and D hence considering the ambiguity in options full marks should be given to all examinees.

**Q.6 Peripheral that allows communication between system technician and the 5ESS-2000 switch.**

- A. MCC
- B. STLWS
- C. ROP
- D. All of the above

Answer marked in Provisional key supplied by BSNL is-A (MCC)

**Explanation of Ambiguity:** question clearly indicates communication between technician and 5ESS Switch means communication from technician to switch and from switch to technician. MCC (Master Control Center), STLWS (Standby Trunk & Line Work Station) both allow full two-way communication between technician/operator & the 5ESS-2000 Switch & ROP (Receive Only Printer) also allows one-way communication i.e. switch to technician by printing out Exchange System Alarm & Other Threshold conditions.

Thus if two-way communication is expected as answer, both options 'A' & 'B' are correct and if one-way communication is also taken, than Option 'D' – All of the above is more correct answer.

**Request:** in question **between** word is used which means technician to switch or switch to technician hence more correct answer is D (All of the above) considering the ambiguity in question as explained above either answer key need to be changed to D or full mark should be awarded to all examinees.

**Q.8 when two exchanges are connected by 2 E1 streams with CCITT#7 signalling, maximum how many simultaneous voice calls are possible**

- |       |       |
|-------|-------|
| A. 60 | C. 61 |
| B. 62 | D. 63 |

Answer marked in Provisional key supplied by BSNL is-C (61)

**Explanation of Ambiguity:** two exchanges can be connected by 2 E1 streams with CCITT#7 signalling in two ways. First associated mode in which maximum 61 simultaneous voice calls are possible and second quasi associated mode in which maximum 62 simultaneous voice calls are possible. As both the answers are available with the option but question is not clear regarding mode of connection hence there are two possible answer i.e. B (62) and C (61).

**Request:** considering the ambiguity in question full marks should be given to all the examinees.

**Q.13 In E-10B, one fully equipped CSED rack draws**

- |                |                |
|----------------|----------------|
| A. 12A Current | C. 16A Current |
| B. 15A Current | D. 14A Current |

Answer marked in Provisional key supplied by BSNL is-A (12A Current)

**Explanation of Ambiguity:** In one fully equipped CSED (RLU of E-10B) there are max. 1023 subscribers and the current drawn by full rack is dependent upon no. of subscribers being off-hook (offering low impedance to the Line Card and consequently the CSED rack and more current being drawn per line for such customers). Various BSNL documents also specify current in the range of 12A -16A for one such rack. Thus All the options are correct.

**Request:** considering above ambiguity in question and answer full mark should be awarded to all the examinee.

**Q.14 what is recommended temperature range for EWSD EXCHANGE?**

- |              |              |
|--------------|--------------|
| A. 5 to 40 C | C. 5 to 18 C |
| B. 5 to 22 C | D. 5 to 30 c |

Answer marked in Provisional key supplied by BSNL is-A (5 to 40 C)

**Explanation of Ambiguity:** in some documents it is given 5 to 40 C and in some documents 5 to 22 C and as per the latest instruction of BSNL recommended temperature to be kept for

any electronics exchanges are  $23 \pm 3$  C (this question is also asked in Paper-2 of external plant and access network and answer is given  $23 \pm 3$  C).

**Request:** considering ambiguity in the answer full marks should be given to all the examinees.

**Q.16 how many types of cards (PCB) are there in OCB-283?**

- |       |       |
|-------|-------|
| A. 70 | C. 60 |
| B. 65 | D. 55 |

Answer marked in Provisional key supplied by BSNL is-D (55)

**Explanation of Ambiguity:** there are only 35 types of cards in OCB-283 excluding CSN as available in all study material supplied by BSNL training centre. But here it is not mentioned that excluding or including CSN. There are various type of subscriber interface units that can be connected to OCB-283 and CSN is also an subscriber interface unit which can not be treated as part of OCB-283 If we include CSN then it is not called OCB-283 but it is called 1000 E-10

**Request:** considering ambiguity in the question and answer full marks should be given to all the examinees.

**Q.34 In CDOT MAX XL which of the following activity is not part of "Daily Routine" recommended by CDOT?**

- |                               |                     |
|-------------------------------|---------------------|
| A. Formatting Billing Counter | C. Traffic Analysis |
| B. Running Audit              | D. Test of MFC Card |

Answer marked in Provisional key supplied by BSNL is-D (Test of MFC Card)

**Explanation of Ambiguity:** as per the CDOT manual Test of MFC card is also performed once in 24 Hours hence all four options mentioned in the answer are part of "Daily Routine".

**Request:** considering ambiguity in question full marks should be awarded to all the examinee.

**Q.37 signalling and speech path are to be same in**

- |                           |                       |
|---------------------------|-----------------------|
| A. E&M Decadic signalling | C. CCITT#7 Signalling |
| B. Mod R2 Signalling      | D. All the above      |

Answer marked in Provisional key supplied by BSNL is-B (Mod R2 Signalling)

**Explanation of Ambiguity:** signalling and speech path are to be same in E&M Decadic signalling (out of band with Speech frequency but path are same) **and** Mod R2 Signalling both hence option A and B both are correct. But no such options are available in the answer.

**Request:** considering above ambiguity full marks should be given to all the examinee.

**Q.47 In WiMax, with outdoor CPE, what is maximum distance covered?**

- |          |          |
|----------|----------|
| A. 12 Km | C. 15 Km |
| B. 18 Km | D. 10 Km |

Answer marked in Provisional key supplied by BSNL is-C (15 Km)

**Explanation of Ambiguity:** there is no standard fixed for coverage of WiMax. In some study material supplied by BSNL it mentioned 7-10 Km, in other it mentioned 12-15 Km and as per IEEE802.16 standard it is up to 50 Km with out door CPE.

**Request:** considering the above ambiguity full marks should be awarded to all the examinee.

**Q.51 in CDMA, each paging channel support how many pages per second:**

- |        |         |
|--------|---------|
| A. 144 | C. 1260 |
| B. 180 | D. 7    |

Answer marked in Provisional key supplied by BSNL is-B (180)

**Explanation of Ambiguity:** it is wrong question instead of pages per second it should have been pages per set. Following data is there for paging channel

- CDMA assignment has 7 paging CHLs.
- Each paging CHL supports 180 pages per set.
- Total pages/ CDMA RF chl = 1260

Exact number of pages cannot be calculated for a second since number of pages is always said in terms of Slot Cycle which is 1.28 Sec. Even if we calculate for 1s it will be as follows.

half frame is required to send one page message which is of 10 ms there by in 1Sec max 100 page at the max is possible (practically much less than this as some general page messages like system parameters takes more than one paging half frame which will be send once in a slot cycle).

**Request:** considering wrong question as submitted above full marks should be given to all examinee.

**Q.55 In BSNL, for implementing DOTSOFT network which of the following interconnecting method is used?**

- |                  |                  |
|------------------|------------------|
| A. Star Topology | C. Ring Topology |
| B. Bus Topology  | D. Mesh Topology |

Answer marked in Provisional key supplied by BSNL is-B (Bus Topology)

**Explanation of Ambiguity:** client (Dotsoft Terminal) in SSA are connected to the switch or router through star topology. Router of different SSA may be connected through mesh or ring topology but in no case it is Bus Topology hence answer marked in BSNL Key is wrong.

**Request:** considering above submission either answer need to corrected to A (Star Topology) or if routers of SSAs are connected other then star topology it should be given full marks to all examinees.

**Q.56 In network of Class B IP addresses, maximum how many Hosts can be connected?**

- |          |           |
|----------|-----------|
| A. 16384 | C. 65536  |
| B. 32768 | D. 131072 |

Answer marked in Provisional key supplied by BSNL is-A (16384)

**Explanation of Ambiguity:** calculation of host address in class-B IP address is as under

First two octed are for network ID with first two bit fixed (i.e. 10) and last two octed are for host ID

Number of Networks =  $2^{14}$  i.e.16384

Number of Hosts =  $2^{16}$  i.e. 65,536 (0-65,535)

No Host ID can have all zeros i.e. 0.0 and specifies network address.

No Host ID can have all ones i.e. 255.255 and specifies the broadcast address.

**Number of Hosts per network=  $2^{16}-2=65534$**

**Hence correct answer is 65534 but there is no such option available in answer.**

**Request:** as correct answer is not available in the options full marks should be awarded to all the examinees.

**Q.61 where is inverse-bending fading typically found?**

- |           |              |
|-----------|--------------|
| A. Cities | C. Mountains |
| B. Water  | D. Farms     |

Answer marked in Provisional key supplied by BSNL is-B (Water)

**Explanation of Ambiguity:** this question is not clear about what and from which part of syllabus notified for LDCE, seems to be out of syllabus.

**Request:** as question is not clear and out of syllabus full mark should be awarded to all the examinees.

**Q.69 In PC, instructions and data, which are to be immediately executed, are stored in**

- |              |          |
|--------------|----------|
| A. Hard disk | C. CPU   |
| B. RAM       | D. Cache |

Answer marked in Provisional key supplied by BSNL is-D (Cache)

**Explanation of Ambiguity:** as the question is saying which r to be immediately executed, the answer RAM is more correct. As CPU FETCHES data and instruction from RAM first time than it is stored in Cache.

In a PC all instruction & attached data which is to be immediately executed are stored in RAM before being passed on to the Central Processor (CPU) while Cache stores data which are to be used if repeat execution is required. Hence RAM is the most standard answer by all means.

However, if Cache is to be deemed correct. Then it was not unambiguously specified which cache. As there are many caches in PC, many of them implemented in software & a few in hardware.

Cache is very generic term – a device implemented either in hardware or software to match the speed differential between processing engine (either HW or SW here again) and the data storage.

If at all, 'cache' is deemed correct. It is only L2/L1 cache which stores the instruction/data within the Processor Chip itself. But it was not specified that way in the que. Moreover if L2 cache is the expected answer then the actual HW unit CPU (option 'C') containing this L2 Cache is also the correct answer.

**Request:** considering above submission either Answer Key need to be changed to B (RAM) or full marks to be awarded to all examinees.

**Q.70 In 800 MHz Band GSM, maximum how many carriers are used?**

- |        |        |
|--------|--------|
| A. 124 | C. 120 |
| B. 125 | D. 8   |

Answer marked in Provisional key supplied by BSNL is-A (124)

**Explanation of Ambiguity:** there is no such 800 MHz band GSM is used in BSNL and 124 carriers are there in 900 MHz GSM which is used in BSNL hence question itself is wrong.

**Request:** considering wrong question full mark should be awarded to all the examinees.

**Q.73 For providing IPTV service on Broadband by BSNL**

- |                                    |                                  |
|------------------------------------|----------------------------------|
| A. Type-1 Modem & STB are required | C. Type-1 Modem only is required |
| B. Type-2 Modem & STB are required | D. Type-2 Modem only is required |

Answer marked in Provisional key supplied by BSNL is-B (Type-2 Modem & STB are required)

**Explanation of Ambiguity:** IPTV is connected to IPTV-STB (Set Top Box) which need to be connected to Ethernet Port of ADSL CPE (Modem). as Type 1 Modem has one USB and one Ethernet port hence we can use USB port for broadband and Ethernet port for STB box hence Type-1 Modem can also be used for providing IPTV service on broadband. Moreover question itself says that IPTV on broadband and it is not mentioned that simultaneous running of broadband and IPTV hence Type-1 modem as well as type-2 modem with STB can be used.

**Request:** as option A and B both can be the answer of the question hence full marks should be provided to all the examinees.

**Q.78 why in satellite Communication, Always Up Link frequency is higher then DOWN Link frequency?**

- A. free Space Loss increases with increase in frequency
- B. Beam Width increases with decreases in frequency
- C. Both A & B are true
- D. Both A & B are not true

Answer marked in Provisional key supplied by BSNL is-C (Both A & B are true)

**Explanation of Ambiguity:** statement A and B are absolutely true but this is not the reason to using Up Link frequency is higher then DOWN Link frequency. The actual reason is that it is more efficient to generate high power at a LOWER frequency and the amount of signal that a dish receives is directly linked to the frequency. For the same size of dish, the signals received will be larger for higher frequencies that lower frequencies. Technically, this implies that the same dish has a larger "Gain" at higher frequencies. Similarly, a smaller dish could be used at higher frequencies and yet provide the same signal gain.

Hence using higher uplink frequency and lower downlink frequency will decrease the size of dish and reduce the power requirement at satellite which more feasible.

**Request:** as submitted above no option given in the answer is correct hence full mark should be awarded to all the examinees.

**Q.79 CPU Processing power is measured in**

- A. Million Instructions Per second
- B. Billion Instructions Per Second
- C. Million Instructions Per millisecond
- D. Billion Instructions Per millisecond

Answer marked in Provisional key supplied by BSNL is-A (Million Instructions Per second)

**Explanation of Ambiguity:** actual unit of measuring processing power of CPU is instruction per second. It can not be true to say that processing power is measured in million instructions per second or billion instructions per second as all such units are interchangeable. If the processor is a Giga Hertz Processor then BIPS is valid and if the processor is Mega Hertz then MIPS is valid even if we talk about CPU of super computer it can even more then billion instructions per millisecond hence either all the answer are correct or all are wrong.

**Request:** considering above submission all examinee should be awarded full mark.

**Q.86 which of the following statements is FALSE?**

- A. SMPS Power Plants offer improved power factor
- C. VRLA Batteries do not require any maintenance



- B. SMPS Power Plants offer scope for modular expansion  
D. VRLA batteries should not be connected to Conventional power plant

Answer marked in Provisional key supplied by BSNL is-B (VRLA Batteries do not require any maintenance)

**Explanation of Ambiguity:** it is completely wrong to say that VRLA batteries require maintenance as it is also called maintenance free. Hence option -C (VRLA Batteries do not require any maintenance) is also true.

**Request:** as no one options available in the answer are FALSE statement hence full mark should be awarded to all examinee.

**Q.88 With regard to Fire Safety measures, Which of the following is FALSE**

- A. For extinguishing Fire in ordinary combustible materials (Class-A), Water / FOAM can be used
- B. For extinguishing Fire in inflammable liquids, gasses etc. (Class-B) FOAM/CO2/Dry Powder can be used.
- C. For extinguishing Fire in live electrical equipment (Class-C), CO2/HALON can be used.
- D. All the exchanges of 2K or above shall be provided with automatic fire detection.

Answer marked in Provisional key supplied by BSNL is-D (All the exchanges of 2K or above shall be provided with automatic fire detection)

**Explanation of Ambiguity:** in the AT manual it is clearly mentioned that as per DOT all the exchanges of 2K or above shall be provided with automatic fire detection and below 2K there should be manual fire alarm system hence Option-D can not be the false statement. All the available options are True statement.

**Request:** as all the option available in the answer are true statement and no option is FALSE, full mark should be awarded to all the examinees.

**Q. 91 In VRLA Battery, what is normally set Voltage of each Cell?**

- A. 2.23 V
- B. 2.12 V
- C. 2.00 V
- D. 2.3 V

Answer marked in Provisional key supplied by BSNL is-A (2.23V)

**Explanation of Ambiguity:** There is no such standard nomenclature called "normally set voltage" It is a very ambiguously specified question. What is deemed by normally set Voltage – is it set to FLOAT or set to CHARGE or set to BOOST.

Since it is not a standard nomenclature it should have been given, what is expected and all the answers in the key are with the in standard nomenclature values and cannot be assumed what actually is expected. It can be normally set voltage in theoretically (nominal voltage) , It

can be normally set voltage after manufacturing or open circuit voltage, It can be normally set voltage at float condition (2.23 V to 2.5 V) or It can be normally set voltage on charging condition (2.3 V). However normal voltage of each cell of VrLA Battery is  $48/24 = 2.00$  V (Option 'C')

Same question asked in GSM Spelization paper, there as per the answer key 2.0 Volts is the answer and here it is 2.23 given in KEYS uploaded.

**Request:** as there ambiguity in question full marks should be awarded to all the examinee in the light of above explanation.

**Q.94 In case of Line parameters for POT, which of the following is FALSE?**

- A. insulation resistance across each wire to earth should be more then 1M Ohm
- B. up to 6 V DC across each wire to earth is permissible.
- C. Up to 12 V AC across each wire to earth is permissible.
- D. All the Above.

Answer marked in Provisional key supplied by BSNL is-C (Up to 12 V AC across each wire to earth is permissible)

**Explanation of Ambiguity:** Insulation resistance should be  $> 3M$  Ohms not 1M Ohm there by Option A is also FALSE. 6V DC can bias 75- 80 V ringing current and can damage telephone instrument and even the Exchange line cards so Option B is also wrong. If only Option C is correct answer i.e. FALSE Statement then option D is also FALSE statement which says all the above i.e. Option A, B and C are FALSE statement, in this situation Option- D (All the above) is correct answer for the question.

**Request:** answer key need to be corrected to D (All the Above)

**Q.97 Maximum frequency range of copper pair is in**

- A. Kilo hertz
- B. Mega Hertz
- C. Giga Hertz
- D. Terra Hertz

Answer marked in Provisional key supplied by BSNL is-B (Mega Hertz)

**Explanation of Ambiguity:** copper pair is basically designed for voice communication having frequency range (0.3 KHz to 4 KHz) and also called band limited communication media. By using special technology of DSL it can be engineered to carry frequency up to 1.2 Mhz. when ever we called range it is always X unit to Y unit where unit are interchangeable i.e. it may be Kilo, Mega, Giga or Terra. Absolute value is used to define range but in no case Unit can be defined as range. More ever if we taking unit as a range it should cover whole range i.e. here copper pair covers whole range of Kilo Hertz (1 KHz to 99.99 KHz) but it not covers whole range of Mega Hertz (1 MHz to 99.99 MHz) hence answer can be treated as correct answer.

**Request:** there is ambiguity in question as explained above hence full mark should be awarded to all the examinees.

**Q.98 In the conversion from AC to DC by SMPS Power Plant, which of the following is FALSE?**

- A. the input AC voltage is directly rectified to high voltage DC
- B. high frequency AC is stepped down to the required level
- C. stepped down AC is rectified to DC of desired voltage
- D. the output DC voltage is maintained at 52.5 volts

Answer marked in Provisional key supplied by BSNL is-D (the output DC voltage is maintained at 52.5 volts)

**Explanation of Ambiguity:** there are two kind of SMPS Power plant 1) two stage conversion SMPS power plant and 2) one stage conversion power plant which is mostly used in BSNL.

➤ **In two stage conversion power plant the conversion of AC to DC is accomplished in two stages as given below:**

**i) First Stage conversion :**

- The input AC voltage is directly rectified and converted in high voltage DC.

**ii) Second Stage Conversion :**

- Rectified high voltage DC is stored in a capacitor.
- High voltage DC is then converted into a very high frequency AC (20KHz and higher).

Conversion of high voltage DC to high frequency AC is achieved by means of very powerful and fast semi-conductor switching devices.

- High frequency AC is stepped down to the required level by means of a small high frequency transformer.
- Stepped down AC is rectified to DC of desired voltage and filtered by means of high frequency filters.

➤ **In one stage conversion power plant the conversion of AC to DC is accomplished in two stages as given below:**

- The input AC voltage (50Hz) is directly converted into a very high frequency AC(20KHz and above).
- High frequency AC is stepped down to the required level by means of a small high frequency transformer.
- Stepped down AC is rectified to DC of desired voltage and filtered by means of high frequency filters.

As in question it not mentioned which type of SMPS power plant whether it is one stage or two stage conversion SMPS power plant, Option-A i.e. the

input AC voltage is directly rectified to high voltage DC is also false in case of one stage conversion SMPS power plant which is mostly used in field.

**Request:** as there is ambiguity in question and two possible answers is available in option i.e. A and D full marks should be awarded to all the examinees.

**Q.99 with regard maintenance checks for engine alternator set, which of the following is FALSE?**

- A. Check Fuel level daily
- B. Check fan belt and its tension weekly
- C. check engine oil level and leakage weekly
- D. Check starting battery voltage & terminals fortnightly.

Answer marked in Provisional key supplied by BSNL is-C (check engine oil level and leakage weekly)

**Explanation of Ambiguity:** first of all in every working DG, maintenance activity is referred more in terms of working Hours instead of days or weeks or fortnight or months. More ever it also depends on make and capacity of DG Set. Different routines are given in different study material of BSNL. It is unknown that from which study material questioned is prepared hence examinees can be asked to answer as the question per the study material from where question is prepared.

**Request:** considering ambiguity in question full mark should be awarded to all the examinee.