

## **PUBLIC SECTOR UNIT(JTO)**

- BSNL – BHEL – HAL – BEL – ECIL – NTPC Such exams come under one umbrella (i.e) PSU.
- If you really want to prepare for JTO exam then you have to put more efforts and solve the previous exam papers. This will provide you a confidence and increase your knowledge as well as time to attempt the question paper.
- If you want to crack this exam you need good coaching besides good reference books and guidance.
- Through written test BSNL recruits Junior Telecom officers.
- Who has passed out his/her Be/B.Tech from the following branches are eligible for JTO's. [Electronics/Telecommunications/Radio/Civil/Computer/Electrical/Information Technology]
- Fresher's and software's are also eligible for such examination – [JTO's]
- The written test purely objective type Duration – 3 hours.
- One question paper containing 3 sections of
  - ✓ Engineering section – I
  - ✓ Engineering Section – II
  - ✓ General Ability Test – III
- If you want to crack this exam you have to get/obtain a very good score from section – III. [General Ability Test].
- Minimum quality marks must be required in each section.
- There should be a negative marks so because the of that
- You can take the calculator along with you.

### ***Section – I contains the following topics***

- 1) Materials and components
  - 2) Physical Electronics/Electronics devices and IC's
  - 3) Network Theory
  - 4) Electromagnetic Theory
  - 5) Electronic measurements and instrumentation
  - 6) Power electronics
- The most important questions come from the following topics. Network Theory – Electronics/Electronic devices and IC's – Electronic measurement and instrumentations.
  - There are some standard questions usually come from Electronic theory/ materials and components.
  - Definitely you need basic knowledge from Power Electronics
  - Power Electronics is one of the subject in EEE.

**Ex:**

- 1) Which one of the following is a ceramic instrument?  
a) Mica                      b) Parcelein                      c) Liquid crystal                      d) Synthetic fiber
- 2) Which one of the following represents direct band gap material  
a) Si                      b) Ge                      c) Gap                      d) GaAs
- 3) If the average power delivered to load laminated to a loss less transmission line is 75% of that of the incident power, the VSWR on the line is  
a) 1/3                      b) 1                      c) 2                      d) 3
- 4) Q – meter works an the principle of  
a) Series resonance                      b) Pareller resonance  
c) Mutual inductance                      d) Self inductance
- 5) Consider two metallic wires  $W_1$  and  $W_2$ . They are made up to same material and each has circular cross section. The diameter of  $W_2$  is twice that of  $W_1$  and the length of  $W_2$  is 4 times that of  $W_1$  which one of the following statement is true?  
a) Resistance of  $W_1$  is half that of  $W_2$   
b) Resistance of  $W_1$  is equal to of  $W_2$   
c) Resistance of  $W_1$  is twice that of  $W_2$   
d) Resistance of  $W_1$  is eight times that of  $W_2$
- 6) Which of the following statement is true f8 de switched mode power supply?  
a) It cannot provide isolation between input and output as in rectifiers  
b) It cannot remove ripple as in de switching mode rectifiers  
c) It has two stage conversions de – ac and ac – de  
d) If is a type of chopper circuit
- Better do a lot of problems from Network theory  
[Network theorems/transient and steady state conditions]
- Better find the solutions when the problems come from yellow pad in electronics

**Reference books to each subject in Section – I:**

- 1) Materials & Components by So pillai
- 2) Electronic Devices circuits by Millman's
- 3) Circuits theory by chakrabarti
- 4) Electromagnetic Theory by William hayt
- 5) Electronic Measurements & instrumentation A.K Sawhney
- 6) Power Electronics by bimbra

## **Section – II Contains the following topics**

- Analog Electronics – Circuits – Digital Electric Circuits – Central Systems – Communication Systems and microprocessors
- You will have a critical and very intelligent question from control systems/communication systems and digital Electronic Circuits Hence, Better concentrate on such topics
- You need Basic knowledge from communication systems/microwave engineering. Because such topics don't cover in B. Tech for Electrical/computer and It students.

### ● **Some previous years JTO Telecom Questions (Memory based)**

- 1) The minimized form of the Boolean expression  $F(A, B, C) = \pi(0, 2, 3)$  is  
a)  $A + \overline{BC}$                       b)  $A + \overline{BC}$                       c)  $\overline{AC} + B$                       d)  $\overline{ABC} + \overline{AB}$
- 2) In a micro processor then program counter points to the address location from where the  
a) Current byte is to be fetched                      b) Next byte is to be fetched  
c) Next byte is to be stored                      d) Current byte is to be added
- 3) A time division multiplex system samples 96 voice channels at a ratio of 8KHz and encodes in to 8 bits/sample. If one synchronization bit per frame is added, the transmitted data rate (mbps) is  
a) 6.208                      b) 6.152                      c) 6.144                      d) 0.768
- 4) If selection sort takes 3msec to run an array of 200 elements, for a similar array of 4000 elements the selection sort is expected to take  
a) 1.2sec                      b) 600msec                      c) 300msec                      d) 60msec
- 5) The loop transfer of a system is  $G(s) H(S) = 5/(S+1) (2S+1) (3S+1)$  which has the phase cross over frequency  $f_c = 0.16\text{Hz}$ . The gain margin (dB) of the system is  
a) 6                      b) 4                      c) 2                      d) 0
- 6) A rectangular wave guide is 4.2 cm by 1.85cm. The cut off frequency of dominant mode through this wave slide is  
a) 3.57GHz                      b) 3.75GHz                      c) 3.70MHz                      d) 3.57MHz
- 7) In class A – power amplifier, the collector dissipation is maximum when  
a) No signal is present                      b) Signal swing is maximum  
c) Signal swing is (1/1.414) of its maximum                      d) None of the above

### ***Reference books to each subject in section – II:***

- 1) Analog Electronics by Sedra & Smith
- 2) Digital Electronics by R.P. Jain
- 3) Control systems by Nagrath and Gopal
- 4) Communication systems by Simon Haykin
- 5) Microwave Engineering by Kulkarni
- 6) Microprocessor by Gaonkar

- IES [Engineering Services] ECE Syllabus is enough to go for JTO's. So you better cover previous GATE and IES papers.
- If you want you can go for reference books like [GATE/IES] G.K. Publishers and Upkar publishers.

### ***Section – III:***

- The Candidate comprehension and understanding of General English shall be tested [Reading comprehension/vocabulary/functional Grammar] Regarding G.K. Questions come from [current events/History of Indian Geography/Events and developments in Telecommunications]

### ***Ex:***

- 1) ISO 14000 Standard deal with
  - a) Quality management
  - b) Production management
  - c) Human resource management
  - d) Environmental management

- When you refer the previous examination paper of the JTO's you will find 10 Questions. So please concentrate or give extra attention to get good score.

### ***Ex:***

- 1) The opposite of miserly is
  - a) Spend thrift
  - b) Generals
  - c) Liberal
  - d) Charitable

- Section – III is a deciding factor or decides your position in JTO's
- You must qualify section – III when you want to succeed in JTO's. There is a secondary thought in such case.
- Please refer GRE Books and R.S. Agarwal Objective English for all competitive exams.

### ***General Preparation Tips:***

- You must prepare notes for each and every subject.
- You have to refer the previous questions of the JTO's
- Better discuss a difficult subject with your friends so that there might be a chance to remember some important points when you go on thoroughly definitely you will have a command on the subject.
- Be careful of the negative marks. When you are sure and confident then answer otherwise skip off.
- Find out your weakness and try to overcome and strengthen in that. Besides that try to attempt as many as questions from previous papers and solve the model papers. Better analyze the answers you put wrong and the questions you skip off.
- Try to complete the preparation before the date of examination. So that you will be free from the tension and anxiety.
- Better give equal importance for each and every subject while preparing.

cut off marks of previous year exam of jto-2007 are General cut off 35.66 OBC 28 SC 26.83

cut off marks of previous year exam of jto-2009 are General cut off 35.66 OBC 28 SC 26.83