

प्रत्येक Section को उत्तर छुट्टाछुट्टै उत्तरपुस्तिकामा लेख्नुपर्नेछ । अन्यथा उत्तरपुस्तिका रद्द हुनेछ ।

Section 'A'

1. What are the differences between a transistor and a thyristor (SCR)? State. 5
2. What is an OP-AMP? Explain its applications in electronic circuits. 5
3. Compare the BJT and FET. 5
4. What is the function of a shift register? What are its types? 5
5. Why are ICs more reliable than discrete assembly? Why can not we produce ICs of greater power? Describe. 5
6. Write down the principle of operation of yagi antenna. Also, write down its application. 5
7. Define antenna and induction field (near field). Write down expression for retarded vector potential. 5
8. What are the differences between the coaxial cable and optical fiber cable? 5
9. Explain the digital communication technology. Also, write down the advantages of digital communication over analog communication. 5
10. Explain the operation of PLL with its block diagram. 5

Section 'B'

11. Differentiate between step index and graded index optical fiber. Which one is mostly used in telecommunication? 5
12. Compare the relative advantages and disadvantages of light emitting diode and laser. 5
13. What is an inverter? List a few industrial applications of inverters. Also, name two main types of inverters. 2+2+1=5
14. What are the differences between single phase and three phase power supply system? 5
15. Define AF and RF Generators, Frequency Counter and TV pattern generator. 5
16. Write down the different types of computer networks. Explain in brief for each type. 5
17. Draw the block diagram of a super heterodyne receiver and explain the function of each block. Also, mention its advantages. 5
18. What is SMPS? Explain its operating principle with suitable diagrams. What is the practical importance of voltage regulation in power supplies? 5

