

AU – 2511

Third Semester B. E. (Electronics and Telecommu.) (CGS) Examination

ELECTRONIC DEVICES AND COMPONENTS

Paper – 3 XT 05 / 3 XN 05

(USC – 10595)

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

- Note :** (1) Separate answer book must be used for each section in the subject Geology, Engineering material of Civil branch and separate answer book must be used for Section A and B in pharmacy and Cosmetic Tech.
(2) Assume suitable data wherever necessary.
(3) Illustrate your answer wherever necessary with the help of neat sketches.
(4) Use pen of Blue/Black ink/refill only for writing book.

SECTION A

1. (a) Explain the process of manufacturing metal film resistors, write names of parts in the constructional detail. 7
(b) Explain the process of manufacturing the wire wound resistors. 6

OR

2. (a) Compare various types of variable resistors with respect to their Wattage capacity, range of values of resistors, operating temperature, tolerance and applications. 7
(b) What is the purpose of de – metallized margins in metallized paper capacitor ? Explain what is self – healing property. 6
3. (a) Explain the method of testing Audio, Pulse and Switching transformers. 7
(b) State the difference between Auto and Variable transformer. 6

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OR

4. (a) What is the function of fuse ? How is the fusing current of a fuse is determined ? 6
- (b) Compare Co-axial cable with twin core cable with respect to size, characteristics impedance, attenuation and applications. 7
5. (a) Explain preparation of :—
- (i) Single-sided PCB (ii) Double sided PCB. 7
- (b) Discuss methods of soldering techniques. 7

OR

6. (a) Explain the wave soldering. 7
- (b) Explain how PCBs are designed with the aid of computers. 7

SECTION B

7. (a) The current flowing through diode is temperature dependent, Explain. 8
- (b) What is avalanche process and zener breakdown occur in zener diode. 6

OR

8. (a) Derive the equation of static and dynamic resistance of p-n junction diode. 8
- (b) Draw and explain the V-I characteristics of zener diode. 6
9. (a) Explain the working and V-I characteristics of LED. 6
- (b) Explain the construction, characteristics of LCD. 7

OR

10. (a) Draw and explain the V-I characteristics of photodiode, define dark current and photovoltaic potential. 7

- (b) What is Tunneling phenomenon of Tunnel diode ? Explain in detail. 6
11. (a) Explain the working operation of PNP transistor. 7
- (b) Compare the 3 different configurations of transistor. 6
- OR**
12. (a) Explain how transistor acts as an amplifier. 6
- (b) Which transistor configuration is mostly used ? Explain with the characteristics and current components. 7

