

B.Tech. Sem - I (Electronic / Biomedical
E & TC.)

B.Tech. SEM -I Electronics / Bio Medical / E & TC) 2014 Course
(CBCS) : SUMMER - 2019

SUBJECT: ELEMENTS OF ELECTRONICS ENGINEERING

Day: Wednesday
Date: 15/05/2019

S-2019-2532

Time: 10.00 AM TO 01.00 PM
Max Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Assume suitable data if necessary

- Q.1 What is magnetic focusing? (10)
OR
a) Explain the force in the magnetic field. (06)
b) What is the concept of flat panel display? Give the advantages of flat panel display. (04)
- Q.2 a) Discuss the charge densities in a semiconductor. (07)
b) What is conductivity modulation? Give examples. (03)
OR
a) What is the need of doping? Give an example. (03)
b) How is Hall effect useful for experimental determination of mobility? (07)
- Q.3 a) What is BJT? Explain CE configuration. (05)
b) How does PN junction diode work? (05)
OR
a) What is FET? Explain construction and characteristics of JFET. (07)
b) How does Zener diode work as voltage regulator? (03)
- Q.4 a) What is LED? Explain with its VI characteristics. (06)
b) What are the applications of Op-Amp? (04)
OR
a) How does IC555 timer circuit work? (06)
b) What is the use of capacitor filter in a rectifier? (04)
- Q.5 a) Convert the following numbers (04)
1. $(011110)_2$ to $()_{16}$
2. $(20)_{10}$ to $()_8$
b) Implement AND gate and OR gate using NAND gate. (06)
OR
a) Solve the following: (06)
1. 1010×101
2. $111101 \div 110$
b) What is binary multiplication and division? (04)
- Q.6 a) How does laptop work? (05)
b) What is the concept of digital camera? (05)
OR
a) With proper diagram, explain the working of microwave oven. (05)
b) How does mobile phone work? (05)

* * * *