

**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

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- 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)**

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