

B.E./B.TECH. Degree Examination, December- 2020
Second Semester
GE16251 - Basic Electrical and Electronics Engineering
(Regulation 2016)

Time: Three hours

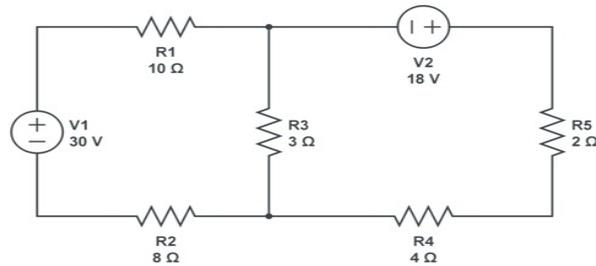
Maximum : 80 Marks

Answer **ALL** questions**PART A - (8 X 2 = 16 marks)**

1. If four resistors are connected in series, each with a value of 4Kohm , the total resistance is
 - (A) $1\text{k}\Omega$
 - (B) $4\text{ k}\Omega$
 - (C) $8\text{ k}\Omega$
 - (D) $16\text{ k}\Omega$
2. The power factor of a D.C. circuit is always
 - (A) Less than unity
 - (B) Unity
 - (C) Greater than unity
 - (D) Zero
3. In D.C. generators, lap winding is used for
 - (A) High voltage, high current
 - (B) Low voltage, high current
 - (C) High voltage, low current
 - (D) Low voltage, low current
4. A semiconductor has.... temperature co-efficient of resistance.
 - A. Zero
 - B. Positive
 - C. Negative
 - D. None of the above
5. State the reason why carbon brushes preferred for dc machines?
6. Why CE configuration of a BJT is widely used? Give reason
7. Mention any two differences between the edge triggering and level triggering
8. List the types of analog modulation?

PART B - (4 X16 = 64 marks)

9. (a) Solve the given circuit using mesh current analysis for the current flowing in 3 ohm resistor. (16)



(OR)

- (b) Illustrate the operation of Permanent Magnet Moving Coil instrument with neat diagram. (16)
10. (a) Illustrate the construction and working principle of a DC generator with the neat sketch. (16)
- (OR)
- (b) Describe the working of a PN junction diode with neat diagrams and compare it with Zener diode. (16)
11. (a) Analyse the concept of Amplitude and frequency Modulation in detail. (16)
- (OR)
- (b) Illustrate the optical fiber communication systems using block diagram and state its advantages (16)
12. (a) Develop the logical circuit for Half and Full adder. (16)
- (OR)
- (b) Design and analyse the working of 3 bit asynchronous counter. (16)