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**Question Paper Code: 52407**

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Second Semester

Electronics and Communication Engineering

01UEC207 - ELECTRONIC DEVICES

(Regulation 2013)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

**(Answer any six of the following questions)**

1. Define Electron Volt.  
(a) 2eV      (b) 1eV      (c) 9eV      (d) 7eV
2. The energy gap decreases with the ----- in temperature  
(a) Constant      (b) unity      (c) decreases      (d) increases
3. Mention any one application of Zener Diode.  
(a) detector      (b) tunnel diode  
(c) For Controlling the output amplitude      (d) demodulation circuit
4. For every  $10^{\circ}C$  rise in temperature the reverse saturation current approximately  
(a) doubles      (b) halves      (c) remains the same      (d) decreases
5. By providing proper bias voltage ,the transistor can be made to work as an-----  
(a) amplifier      (b) regulator      (c) switch      (d) diode
6. Mention the application of CC configuration  
(a) low frequency circuits      (b) high frequency circuits  
(c) audio frequency circuits      (d) Impedance matching

7. When a FET acts as a voltage variable resistor?  
(a)  $V_{gs}=1$       (b)  $V_{gs}=0$       (c)  $V_{gs}<0$       (d)  $V_{gs}>0$
8. Which mode JFET can operate-----  
(a) depletion      (b) enhancement  
(c) depletion and enhancement      (d) normal mode
9. In a tunnel diode, the width of the depletion layer is of the order of  
(a) 0.1 micron      (b) 1.0 micron  
(c) 0.1 Armstrong      (d) 100 Armstrong
10. LCD are used for display of  
(a) printer      (b) numeric only  
(c) alphanumeric character only      (d) numeric and alphanumeric character

PART – B (3 x 8= 24 Marks)

**(Answer any three of the following questions)**

11. Explain the drift and diffusion currents for semiconductor. (8)
12. Explain the working of a PN junction diode under various biasing conditions using the relevant circuit sketch. (8)
13. Explain in detail the input and output characteristics of Common Base Transistor. (8)
14. Explain the operation, Drain and transfer characteristics of N-channel JFET. (8)
15. Explain the characteristics of TRIAC. (8)