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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12EC201** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **ELECTRON DEVICES** | **Max. marks :** | **100** |

**Answer ALL questions**

**PART – A (10 x 1 = 10 MARKS)**

1. What is PN junction diode?

2. What is reverse saturation current in diode?

3. Define intrinsic stand of ratio.

4. Write Ebers Moll equation.

5. Draw the hybrid model for a two port network

6. Write down the applications of CE amplifier.

7. Give the symbol of TRIAC.

8. What is UJT?

9. What is the other name of varactor diode?

10. What is optocouplers?

**PART – B (5 x 3 = 15 MARKS)**

11. Write a note on Hall Effect.

12. Draw the circuit diagram to measure the h parameters.

13. Give the comparison study on CE, CB and CC configuration.

14. What is enhancement mode MOSFET?

15. Mention the applications of Laser diode.

**PART – C (5 x 15 = 75 MARKS)**

16. With necessary diagrams, explain the energy band description of conductors, semiconductors and insulators.

(OR)

17. Explain how the diode current flows and parameter affecting the current. Derive diode current equation.

18. What are the various transistor parameters and current components of a transistor? Explain in detail.

(OR)

19. Describe the static characteristics of a NPN transistor in CC configuration.

20. Draw the small signal model for CE amplifier and derive voltage gain, current gain, input impedance and output impedance.

(OR)

21. What are hybrid parameters? Draw the hybrid model for a two port network? How will you obtain h-parameters from the characteristics of CC configuration? What are the limitations of h parameters?

22. With neat diagrams, explain the structure, operation and characteristics of JFET.

(OR)

23. Explain the construction, operation, volt ampere characteristics, and application of SCR.

24. a. Explain the construction, operation and applications of LED. (10)

b. Write a short note on Zener diode. (5)

(OR)

25. Explain the construction, operation, VI characteristics, and applications of TRIAC.