C16-**EE-305**

6241

BOARD DIPLOMA EXAMINATIONS

SECTEMBER/OCTOBER-2020

DEEE– THIRD SEMESTER

ELECTRONICS ENGINEERING -I

Time:3 hours Max. Marks: 80

PART – A 3 X 10 = 30

Instructions: *1. Answer **all** questions.*
*2. Each question carries **Three** Marks.*
3. Answer should be brief and straight to the point and should not exceed five simple sentences.

1. Distinguish between intrinsic and extrinsic semiconductors.
2. List the manufacturer specifications of transistor.
3. Define the terms (i) ripple factor (ii) rectification efficiency.
4. List the different types of filters used in DC power supplies.
5. Draw the circuit symbols of LED, UJT and SCR.
6. Draw the V-I characteristics of photo diode.
7. State the necessity of proper biasing for transistor amplifier action.
8. Define the terms (i) Gain in terms of decibel (ii) Bandwidth
9. List the advantages of negative feedback.
10. Distinguish between voltage and power amplifier.

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PART – B 10 X 05 = 50

***Instructions**:* 1. *Answer any **Five** questions*
2. *Each question carries **TEN** Marks.*
3. *Answer should be comprehensive and Criteria for Valuation is the content but not the length of the answer.*

11. Draw the input and output characteristics of transistor in common base configuration and explain.
12. Explain Centre tapped full wave rectifier with circuit diagram and wave forms.
13. Explain the construction and working of SCR and draw its V-I characteristics.
14. a) Explain the construction and working of optocoupler with neat diagram. 7M
    b) List the application of UJT. 3M
15. a) Draw and explain collector to base bias circuit. 7M
    b) What is meant by faithful amplification? 3M
16. a) Compare RC coupled and Transformer coupled amplifiers. 5M
    b) Explain the concept of DC load line. 5M
17. Explain the working of Transformer coupled amplifier with circuit diagram and draw its frequency response.
18. Draw the block diagram of
    a) Voltage series feedback amplifier b) Voltage shunt feedback amplifier
    c) Current series feedback amplifier d) Current shunt feedback amplifier