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C16-EC-105

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**BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER/NOVEMBER-2018
DECE- FIRST YEAR EXAMINATION**

BASIC ELECTRONIC COMPONENTS AND MATERIALS

Time : 3 Hours]

[Total Marks: 80

PART-A

2X15=30

- Instructions** :
1. Answer any **15** questions.
 2. Each question carries **2** marks.
 3. Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. Define Curie point in magnetic materials.
2. List the specifications of a capacitor
3. Write the colour code of 1K ohm with 5% tolerance carbon resistor.
4. Define the term stray inductance.
5. Define ferrites.
6. List 4 applications of transformers.
7. List 2 differences between auto transformer and two winding transformer.
8. Calculate transformation ratio of 4400/220v single phase transformer.
9. Classify switches according to poles and throws
10. List 2 advantages of PCB.
11. List the types of soldering joints.
12. What are the important hand files according to their grade?
13. List the specifications of loud speakers.
14. List the specifications of horn loud speakers.
15. Define intrinsic semiconductor and give two examples.

16. List the applications of P-N junction diode.
17. In a CB configuration $I_c = 0.95\text{mA}$ and $I_b = 0.05\text{mA}$ find the value of α
18. Define base current amplification factor (β)
19. List 2 disadvantages of full wave rectifier.
20. Define Ripple Factor.

PART-B

10X5=50

Instructions :

1. Answer any **Five** questions.
2. Each question carries **ten** marks.
3. Answer should be comprehensive and criterion for valuation is the content but not the length of the answer.

21. (a) Classify the material into conducting, semi conducting and insulating materials according to energy band diagram
(b) Define Soft and Hard magnetic materials with 2 examples for each.
22. (a) Explain carbon potentiometer.
(b) List properties of mica capacitor and its applications
23. (a) Explain the construction and working of general-purpose electromagnetic relay
(b) List the contact materials used in relays.
- * 24. Explain the steps involved in screen-printing for making PCBs.
25. Explain the working of carbon microphone.
26. (a) What is zener diode?
(b) Explain V-I characteristics of zener diode.
(c) What is zener Breakdown?
27. Draw and explain input and output characteristics of transistor in CE Configuration.
28. Describe the working of center tapped full wave rectifier with input and output waveforms.

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