



C14-EC-105

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**BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DECE-FIRST YEAR EXAMINATION**

BASIC ELECTRICAL & ELECTRONICS ENGINEERING

Time : 3 Hours]

[Total Marks: 80

PART-A

4X10=40

- Instructions :**
1. Answer **All** questions.
 2. Each question carries **four** marks (Two marks for each bit).
 3. Answer should be brief and straight to the point and shall not exceed Five simple sentences.

1. (a) List different sources of energy. (b) Define thermal Efficiency.
2. (a) Define field intensity? (b) Define M.M.F?
3. (a) What is capacitance? (b) Draw the symbol of capacitor and give its units.
4. Define (a) Primary cells (b) Secondary cells
- * 5. Define (a) Instantaneous value (b) Phase difference.
6. Draw the symbols of (a) Air core coil and Iron core coil (b) Electrolytic capacitor and Potentiometer.
7. (a) Define switch & draw its symbol. (b) Draw the symbol of a fuse and mention the material used for it.
8. (a) list the types of laminates used in PCB's (b) List the soldering methods of PCB's
9. (a) Name the majority carriers in N-type & P-type semiconductors? (b) Define Diffusion current.
10. (a) Define Ripple factor. (b) What is the need of DC supply for electric circuits?

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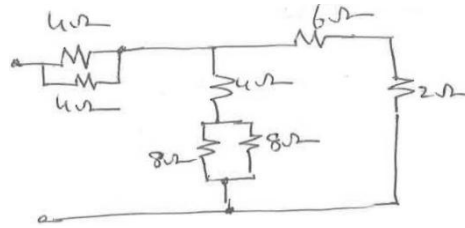
PART-B

10X4=40

Instructions :

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

11. a) Find the equivalent resistance of the network given below



- (b) Define temperature coefficient of resistance & derive its formula?
12. (a) State Coloumb's law of Faraday's laws of electrolysis?
(b) Explain First law of Faraday's laws of electrolysis?
 13. (a) Give the expression for energy stored in a capacitor & calculate its value for $C=2\mu$ f, $V=2V$?
(b) Derive the expression for capacitance of parallel plate capacitor?
 14. (a) Explain the concept of leading, lagging and in phase with the help of diagrams?
(b) Define Q factor of a coil?
 15. (a) Classify the type of resistors? (b) Write about stray inductance & stray capacitance?
 16. (a) Draw and explain the construction & working of Electromagnetic relay.
(b) Classify the switches based on no. of poles & throws?
 17. (a) List the methods of transferring layout on the copper clad sheet & briefly explain photo printing?
(b) Write the differences between intrinsic & extrinsic semi conductor.
 18. (a) Explain the working of center tapped full wave rectifier with a neat diagram & wave forms.
(b) List the advantages of FWR over HWR.
