



C14-EC-106

**4039**

**BOARD DIPLOMA EXAMINATION, (C-14)**

MARCH / APRIL - 2019

**DECE - FIRST YEAR EXAMINATION**

**ELECTRONIC ENGINEERING MATERIALS & PRACTICES**

Time : 3 Hours]

[Total Marks : 80

**PART - A**

**4×10=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) Classify the conducting materials based on their resistivity.  
(b) List any six metals used in electronics engineering.
- 2 (a) State four electrical properties of Iron.  
(b) State the use of Zinc in electrical applications.
- 3 (a) Define thermoplastic resins.  
(b) State four applications of Nylon in electronic industry.
- 4 (a) Define Curie point.  
(b) Write the formula for Hysteresis loss.
- 5 (a) List alloys used for soldering and fuse materials.  
(b) State any four applications of Nano materials.

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- 6 (a) State the use of Ball-Peen Hammer.  
(b) List three types of nuts used in industry.
- 7 (a) Mention the applications of riveting.  
(b) Write three de-merits of adhesives.
- 8 (a) Define Welding.  
(b) List three types of Soldering joints for joining electrical conductors.
- 9 (a) State the purpose of Annealing.  
(b) List the different heat treatment processes.
- 10 (a) State the reasons for electric shock.  
(b) Draw any two safety symbols and write their meaning.

**PART - B**

**10×4=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) Explain the differences between conductors, semi conductors and insulators. **7**  
(b) Define Strength, Ductility and Toughness of a material. **3**
- 12 (a) Explain the properties and applications of PVC. **6**  
(b) State the choice of mica as an insulating material. **4**
- 13 (a) Explain the hysteresis in Ferro magnetic material. **8**  
(b) Define hysteresis loss. **2**

- 14 (a) Explain the choice of ceramics for making insulators. 6  
(b) Explain the suitability of ferrites for high frequency applications. 4
- 15 (a) What is an adhesive ? Write its advantages. 6  
(b) Explain the precautions to be taken in handling and maintenance of files. 4
- 16 (a) Explain the process of soft soldering. 8  
(b) State the tin-lead ratios for (i) General purpose electrical soldering (ii) Dipping baths. 2
- 17 (a) Explain the process of normalizing. 7  
(b) State the purpose of hardening. 3
- 18 (a) Write any 5 fire prevention measures to be taken while working in industries. 5  
(b) Explain first-aid treatment for someone suffering from electrical shock. 5
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