## 

с20-с/м-104

# 7019

## **BOARD DIPLOMA EXAMINATION, (C-20)**

## SEPTEMBER/OCTOBER-2021

## **DCE - FIRST YEAR EXAMINATION**

## ENGINEERING CHEMISTRY AND ENVIRONMENTAL STUDIES

Time : 3 hours ]

## PART-A

3×10=30

- **Instructions**: (1) Answer **all** questions.
- Kiishnal (2) Each question carries three marks?
  - (3) Answers should be brief and straight to the point and shall not exceed five simple sentences.
  - What are fundamental particles? Name them. 1.
  - 2. Define solute, solvent and solution.
  - 3. Define Arrhenius acid and base. Give one example for each.
  - What are non-electrolytes? Give examples. 4.
  - 5. Write any three disadvantages of using hard water in industries.
  - 6. Write the names of monomers in polythene and teflon.
  - 7. Write the composition and uses of water gas.
  - 8. Write the composition and applications of vinegar.
  - 9. Define COD and BOD.
  - 10. Define producers and consumers. Give examples.

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**Instructions**: (1) Answer **all** questions.

- (2) Each question carries **eight** marks.
- (3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.
- 11. (a) State and explain Aufbau's principle and Hund's rule.

### OR

- (b) Define ionic bond. Explain the formation of NaCl.
- District Andhra Pradesh t j (a) Define normality. If 98 grams of  $H_2SO_4$  is present in 5 litres of 12. solution. Find the normality of solution.

## OR

- (b) Explain Lewis acid-base theory.
- Gudlavalleru (a) Define alloy. Write the composition and uses of (i) German silver 13. and (ii) Nichrome.

- (b) Define galvanic cell Explain its structure and working.
- 14. (a) Define rusting of iron. Explain the mechanism of rusting of iron.

#### OR

- Explain permutit process of removal of hardness of water. (b)
- 15. (a) Define elastomer. Write preparation and uses of Buna-S.

#### OR

(b) Explain (i) greenhouse effect and (ii) acid rain.

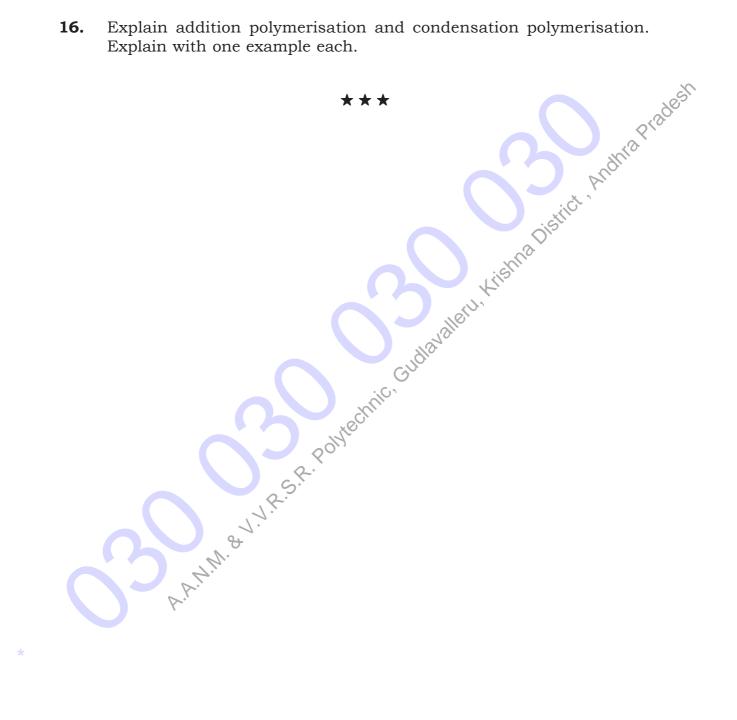
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## PART-C

#### (1) Answer the following question that carries **ten** marks. **Instruction**:

Explain addition polymerisation and condensation polymerisation. 16. Explain with one example each.



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