



**PBH-003-001316** Seat No. \_\_\_\_\_

**B. Sc. (Sem. III) (CBCS) Examination**

November / December - 2018

**IC - P - 301 : Industrial Chemistry**

**Faculty Code : 003**

**Subject Code : 001316**

Time :  $2\frac{1}{2}$  Hours]

[Total Marks : 70

- Instructions :**
- (1) All the questions are compulsory.
  - (2) Figures to the right indicate maximum marks.
  - (3) Draw labelled diagram wherever necessary.
  - (4) Assume suitable data.
  - (5) Question 1 carries 20 marks.
  - (6) Question 2 and 3 carry 25 marks each.

**1** Answer the following questions : **20**

- (1) The all things surrounding human beings in form of physical, chemical or biological is known as \_\_\_\_\_.
- (2) The troposphere is extended upto \_\_\_\_\_ km from earth surface.
- (3) Biotic components include living organism. True/False
- (4) The scientific study of the relationship of living organisms with each other and with their environment is called \_\_\_\_\_ .
- (5) Photochemical smog is also known as \_\_\_\_\_.
- (6) What are primary pollutants ?
- (7) Give full form of NDIR.
- (8) Gravitational settling chamber is used to remove \_\_\_\_\_  $\mu m$  particle size from gas.
- (9) If  $SO_3H$  group is attached to phenyl ring, the process is known as \_\_\_\_\_.
- (10)  $KMnO_4$  and  $K_2Cr_2O_7$  are examples of \_\_\_\_\_ of agents.

- (11) Acid hydrolysis utilizes water-acid combination in the reaction. True/False.
- (12) Which material is added in to cement to delay setting time ?
- (13) Brass is alloy of \_\_\_\_\_ metal.
- (14) From cupola furnace we can manufacture \_\_\_\_\_.
- (15) \_\_\_\_\_ is called rust of iron.
- (16) When aluminium corrodes it is converted into \_\_\_\_\_.
- (17) In free radical polymerization \_\_\_\_\_ is used as initiator.
- (18) "For addition polymerization unsaturated monomer is required". True/False.
- (19) In FRP, F stands for \_\_\_\_\_ reinforced polymer.
- (20) \_\_\_\_\_ is laminar type composite material.

- 2** (a) Answer any **three** : **6**
- (1) Draw only diagram of electrostatic precipitator.
  - (2) Enlist types of pollution.
  - (3) Define : (a) Halogenation (b) Oxidation.
  - (4) Write applications of cement.
  - (5) Enlist various types of ceramics.
  - (6) Define : (a) Ductility, (b) Plasticity.
- (b) Answer any **three** : **9**
- (1) Write a note on lithosphere.
  - (2) Explain flame ionization detector with diagram.
  - (3) Enlist various suffonating agents.
  - (4) Enlist any three types of oxidation reactions.
  - (5) Draw only diagram for manufacturing of chloral.
  - (6) Explain in brief : Bronze.
- (c) Answer any **two** : **10**
- (1) Describe fabric filter system with diagram.
  - (2) Explain wet process for manufacturing of cement.
  - (3) Explain synthesis of methanol with neat diagram.
  - (4) Write a note on steel with its uses, alloying material and types.
  - (5) Explain factors affecting atmospheric corrosion in detail.

- 3** (a) Answer any **three** : **6**
- (1) Draw only diagram of  $N_2$  cycle.
  - (2) Discuss effects of  $SO_x$  on plants.
  - (3) Enlist various oxidation agents.
  - (4) Draw only diagram of ball mill.
  - (5) Give raw material for manufacturing of fiber reinforced composites. Write uses.
  - (6) Define : Polymer.
- (b) Answer any **three** : **9**
- (1) Write a note on hydrosphere in detail.
  - (2) Discuss centrifugal scrubber with diagram.
  - (3) Write a note on acidic ceramics.
  - (4) Explain sulfonation of dedecyl benzene with process diagram.
  - (5) Give detailed classification of polymer.
  - (6) Explain laminar composite in detail.
- (c) Answer any **two** : **10**
- (1) Explain phosphate cycle with diagram.
  - (2) Discuss cyclone separator with neat figure.
  - (3) Explain chlorination of methanol with diagram.
  - (4) Discuss liquid phase oxidation of acetaldehyde to acetic acid with diagram.
  - (5) Explain mechanism of free radical polymerization of propylene.
-