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JAM-003-001316 Seat No. _____

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

November - 2019

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 & 3 carry 25 marks each.

1 Answer the following questions : **20**

(1) Stratosphere is extended up to _____ km from earth surface.

(2) Symbiotic means living together. True/False?

(3) Give full form of ATP.

(4) Which acid is present in acid rain water?

(5) Photochemical smog is also known as _____

(6) Give full form of FID.

(7) Gravitational settling chamber is used to remove large particles usually _____μm.

(8) Sticky, flammable and high corrosive particulates matter can be handled through venturi scrubber. True/False?

(9) Chlorosulfonic acid is an example of _____ agent.

(10) Which catalyst is used to manufacture maleic anhydride from benzene?

(11) The process where by one or more halogen atoms are introduced into an organic compound is known as

(12) Chloral is also known as trichloroacetaldehyde. True/False?

(13) Hydrogenation process is used to harden the _____

(14) _____ is principal raw material for manufacturing of brass.

(15) Write chemical formula of rust.

(16) Write examples of semisynthetic polymers.

(17) Coaxial cable is _____ type of composite.

(18) _____ cement must be free from metal oxides impurity.

(19) "Refractory material has high thermal conductivity" is this statement true or false.

(20) Temperature range for manufacturing process of cement is _____ to _____°C

2 (A) Answer Any **Three** : **6**

(1) Draw only diagram of spray tower.

(2) Enlist various segments of environment.

(3) Enlist types of hydrogenation catalysts.

(4) Give any four hydrolyzing agents.

(5) Enlist raw materials used in ceramic manufacturing.

(6) Enlist factors affecting corrosion. Explain any two in brief.

(B) Answer Any **Three** : **9**

(1) Write a brief note on Ionosphere.

(2) Discuss effects of NO_x on man.

(3) Enlist factors affecting hydrogenation process.

(4) Explain sulfonation of dodecylbenzene with diagram.

(5) Enlist various types of cement.

(6) Write a brief note on vitreous enamel.

(C) Answer Any **Two** : **10**

(1) Explain electrostatic precipitator with diagram.

(2) Discuss phosphate cycle with neat diagram.

(3) Describe manufacturing of vegetable oil by hydrogenation process with diagram.

(4) Discuss liquid phase oxidation of acetaldehyde to acetic acid with diagram.

(5) Explain in detail: steel, its application, classification, alloying material and properties.

3 (A) Answer Any **Three** : **6**

(1) Draw only diagram of centrifugal scrubber.

(2) Write a brief note on source correction method.

(3) Define hydrogenation with example.

(4) Draw only diagram for manufacturing phthalic anhydride.

(5) Explain sandwich composites and its applications.

(6) Write chemical reaction for manufacturing of polystyrene and nylon-6,6.

(B) Answer Any **Three** : **9**

(1) Discuss effects of SO_x on plants.

(2) Explain sulphur cycle with diagram.

(3) Write any three oxidation reactions.

(4) Draw only diagram for manufacturing of Freon-12.

(5) Explain glazing process in detail.

(6) Write ingredients used for manufacturing of cement.

(C) Answer Any **Two** : **10**

(1) Discuss cyclone separator with neat diagram.

(2) Explain continuous sulfonation of benzene with diagram.

(3) Explain reforming process with neat diagram.

(4) Write detailed mechanism for anionic addition polymerization mechanism.

(5) Write a detailed note on manufacturing of ceramics and its uses.
