



**BBG-003-1016027**

Seat No. \_\_\_\_\_

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

**July - 2021**

**IC-602 : Petrochemicals & Industrial Management**

**Faculty Code : 003**

**Subject Code : 1016027**

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

[Total Marks : 70

- Instructions :**
- (1) Question paper carries total 10 questions.
  - (2) All the questions have general option & carry 14 marks each.
  - (3) Answer any 5 questions out of total 10 questions.
  - (4) Draw labeled diagram wherever necessary & Assume suitable data.

- 1 (A) Answer the following questions. 4
- (1) \_\_\_\_\_ is smallest hydrocarbon.
  - (2) "Ethylene is unsaturated product" true or false?
  - (3) Raw material for manufacturing of hydrogen cyanide is \_\_\_\_\_.
  - (4) "Ethanol can be used as solvent", True of False?
- (B) Answer in brief. 2
- (1) Write only reaction for production of carbon disulfide.
- (C) Answer in detail. 3
- (1) Write chemical reactions for manufacturing of methanol.
- (D) Write a note on. 5
- (1) Explain production of methanol with neat diagram.
- 2 (A) Answer the following questions. 4
- (1) Acetic acid contains \_\_\_\_\_ functional group.
  - (2) \_\_\_\_\_ is aromatic product. (Styrene, Ethylene)
  - (3) Methane reacts with sulfur gives \_\_\_\_\_.
  - (4) Ni is used as \_\_\_\_\_ in hydrogenation of aldehyde.
- (B) Answer in brief. 2
- (1) Write properties of methanol.

- (C) Answer in detail. 3  
 (1) Discuss manufacturing of ethylene-oxide with neat diagram.
- (D) Write a note on. 5  
 (1) Discuss manufacturing of ethylene with schematic diagram.
- 3 (A) Answer the following questions. 4  
 (1) Give full form of IPA.  
 (2) How many carbons are present in the structure of allyl alcohol?  
 (3) Cumene is also known as \_\_\_\_\_.  
 (4) Which catalyst is used to convert allyl alcohol to glycerol?
- (B) Answer in brief. 2  
 (1) Write properties of maleic acid.
- (C) Answer in detail. 3  
 (1) Write properties and uses of styrene.
- (D) Write a note on. 5  
 (1) Write a detailed note on acrylic acid with diagram.
- 4 (A) Answer the following questions. 4  
 (1) Iso propyl benzene is produced from benzene and propylene in presence of \_\_\_\_\_.  
 (2) Which catalyst is used to produce maleic anhydride from butane?  
 (3) Write name of AgO.  
 (4) How many oxygen atoms are present in acetic acid?
- (B) Answer in brief. 2  
 (1) Write uses of acrylic acid.
- (C) Answer in detail. 3  
 (1) Draw only diagram for production of IPA.
- (D) Write a note on. 5  
 (1) Explain production of butadiene with neat diagram.
- 5 (A) Answer the following questions. 4  
 (1) In BTX, B stand for \_\_\_\_\_.  
 (2) In BTX T stand for \_\_\_\_\_.  
 (3)  $\alpha$ -naphthol is used as insecticide named \_\_\_\_\_.  
 (4) Which catalyst is used to convert naphthalene to phthalic anhydride?

- (B) Answer in brief. 2  
 (1) Write chemical reaction for manufacturing of adipic acid.
- (C) Answer in detail. 3  
 (1) Describe BTX separation with diagram.
- (D) Write a note on. 5  
 (1) Discuss natural gas steam reforming process with suitable diagram.
- 6 (A) Answer the following questions. 4  
 (1) Give full form of LABS.  
 (2) TDI stands for what?  
 (3) At which temperature, p-xylene is converted in to Terphthalic acid via oxidation?  
 (4) Adipic acid is monomer for the production of \_\_\_\_\_.
- (B) Answer in brief. 2  
 (1) Write uses of naphthalene.
- (C) Answer in detail. 3  
 (1) Write a note on naphthalene in brief.
- (D) Write a note on. 5  
 (1) Explain linear alkyl benzene and its sulphonates with diagram.
- 7 (A) Answer the following questions. 4  
 (1) Operational and routine decisions are made by \_\_\_\_\_ level management. (Top/Bottom)  
 (2) Write any five managerial skills.  
 (3) What is the meaning of term, management?  
 (4) Write any five managerial posts in chemical industries.
- (B) Answer in brief. 2  
 (1) Explain SWOC and PEST analysis.
- (C) Answer in detail. 3  
 (1) Write directing and staffing functions of management.
- (D) Write a note on. 5  
 (1) Explain decision making in detail.
- 8 (A) Answer the following questions. 4  
 (1) Write examples of strategic planning.  
 (2) Write examples of routine planning.  
 (3) Write role of HR management in industries.  
 (4) What is role of finance manager in industries ?

- (B) Answer in brief. 2  
 (1) Write factors affecting job satisfaction.
- (C) Answer in detail. 3  
 (1) Explain functions of planning.
- (D) Write a note on. 5  
 (1) Explain Inventory control and its terms with examples and chart.
- 9 (A) Answer the following questions. 4  
 (1) "In introduction stage sales of product remain almost constant", True or False?  
 (2) Enlist any two convenience products.  
 (3) Enlist any two specialty products.  
 (4) Enlist cost associated with manufacturing and sales of hand sanitizer for new business.
- (B) Answer in brief. 2  
 (1) Write breakdown maintenance with examples.
- (C) Answer in detail. 3  
 (1) Write elements of cost accounting.
- (D) Write a note on. 5  
 (1) Explain product life cycle in detail with chart and examples.
- 10 (A) Answer the following questions. 4  
 (1) Total Capital Investment =  
       Capital Investment + Working Capital.  
 (2) How can we create capital?  
 (3) Enlist any six examples of maintenance.  
 (4) Stable political structure is \_\_\_\_\_ for business.  
       (Good/ Bad)
- (B) Answer in brief. 2  
 (1) Enlist main factors that affect a plant location.
- (C) Answer in detail. 3  
 (1) Explain factors involved in product cost estimation.
- (D) Write a note on. 5  
 (1) Explain product development stages of electric car.