



RY-003-1016027 Seat No. _____

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

March - 2019

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 5 questions.
(2) All the questions are compulsory & carry 14 marks each.
(3) Draw labeled diagram wherever necessary.
(4) Assume suitable data.

- 1 (A) Answer the following questions : 4
- (1) For manufacturing of CS_2 _____ is used as catalyst system.
 - (2) _____ is called Vinyl group.
 - (3) Give industrial & domestic uses of acetic acid.
 - (4) Write structure of ethylene oxide.
- (B) Answer in brief : (Any **One** out of Two) 2
- (1) Write industrial & laboratory applications of ethanol with grades.
 - (2) Write only chemical reaction for manufacturing of Acetic acid.
- (C) Answer in detail : (Any **One** out of Two) 3
- (1) Explain manufacturing of ethylene glycol in detail.
 - (2) Explain manufacturing of carbon disulphide in detail.

- (D) Write a note on : (Any **One** out of Two) 5
- (1) Explain production process of ethylene in detail with neat diagram.
 - (2) Explain manufacturing of vinyl acetate monomer in detail.
- 2** (A) Answer the following questions : 4
- (1) "IPA is more volatile than H₂O". Is this statement true or false?
 - (2) For conversion of styrene from ethyl benzene _____ catalyst is needed.
 - (3) Cumene is used for production of _____
 - (4) Give structure of epichlorohydrin.
- (B) Answer in brief : (Any **One** out of Two) 2
- (1) Write reaction for manufacturing of glycerol.
 - (2) Write reaction for manufacturing of Acrylic acid.
- (C) Answer in detail : (Any **One** out of Two) 3
- (1) Draw only flow diagram of glycerin manufacturing process.
 - (2) Draw only flow diagram of maleic anhydride manufacturing process
- (D) Write a note on : (Any **One** out of Two) 5
- (1) Write a note on manufacturing process of styrene with detailed diagram.
 - (2) Write a note on manufacturing process of butadiene with detailed diagram.
- 3** (A) Answer the following questions : 4
- (1) "Naphthalene is used as insecticide". Is this statement true or false?
 - (2) For manufacturing caprolactum _____ is used as raw material.
 - (3) For manufacturing dimethyl terephthalate _____ is used as raw material
 - (4) Give structure of cyclohexanone.

- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) Explain SNG production in detail.
 - (2) Explain naphtha steam reforming in detail.
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) Explain manufacturing of toluene diisocyanate in detail.
 - (2) Explain scheme for CO & H₂ production.
- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Write detailed note with diagram: LABS production.
 - (2) Explain manufacturing of Caprolactum in detail.
- 4** (A) Answer the following questions : **4**
- (1) Henry Fayol Quoted "To _____ is to forecast, to organize, to command, to coordinate and to control.
 - (2) "Top management works on policy making tasks". Is this statement true or false?
 - (3) _____ has given theory of scientific management.
 - (4) Supervision comes under _____ function of management.
- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) Draw only organization chart of any chemical company.
 - (2) Explain functions of human resources manager with an example.
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) What is SWOC & PEST analysis? Explain each component of SWOC & PEST in detail.
 - (2) Explain Maslow's hierarchy of needs theory with diagram.

- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Explain functions of management in detail.
 - (2) What is decision making process? Write detailed note on it.
- 5** (A) Answer the following questions : **4**
- (1) _____ = Direct cost + Indirect cost
 - (2) Inventory cost = Ordering cost + _____ cost.
 - (3) Total capital investment = fixed capital investment + _____ capital investment.
 - (4) Soap comes under _____ goods. (Convenience/ Specialty)
- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) Give examples of direct cost & indirect cost.
 - (2) Explain elements of cost accounting.
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) Explain product development stages in detail with their examples.
 - (2) Explain in detail product line, product mix and branding of product with examples.
- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Explain plant layout in detail with example of petroleum refinery.
 - (2) Explain chart of economic order quantity with an example
-