



MBD-003-001416 Seat No. _____

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

March / April - 2018

IC.P - 401 : Industrial Chemistry

Faculty Code : 003

Subject Code : 001416

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) _____ is used to kill rats and mice.
- (2) Addition of excess undesirable heat to water is called _____ pollution.
- (3) Release of energy from an atom is known as _____
- (4) Moisture content in pathological waste is _____%
- (5) Give full form of BOD.
- (6) Biological treatment of sewage is also known as _____ treatment.
- (7) _____ filter method produces insects and odours.
- (8) Amines can be produced by reducing which compounds?
- (9) Presence of which group on phenyl nucleus increases replacement of halo group by amino group?
- (10) Favourable temperature for manufacturing of m-nitro aniline from m-dinitro benzene is _____°C.
- (11) In Nitration reaction hydrogen substitution is favoured when _____ structure.

- (12) In preparation of p-nitro acetanilide from acetanilide, temperature maintained at 3–5°C to prevent _____ reaction.
- (13) For manufacturing of detergents from benzene, which process is used?
- (14) Hook type indicator method is used for _____ measurement.
- (15) "Meter scale is an example of Direct measurement" is this statement true or false?
- (16) Convert 37 °C in to °F.
- (17) Give any two examples of power operated measuring instruments.
- (18) _____ is used for manufacturing of coloured glass.
- (19) mm Hg is unit of _____ measurement.
- (20) Enlist types of measurement.

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

- (1) Enlist classification of water pollutants.
- (2) Draw only diagram of mechanically raked bar screen.
- (3) Enlist various types of reduction methods for the preparation of amines.
- (4) Define: Nitration and Alkylation
- (5) Give disadvantages of glass thermometer and Pirani gauge.
- (6) Enlist functions of measuring instruments, explain any two in brief.

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

- (1) Explain sources of noise pollution.
- (2) Discuss cooling towers in detail.
- (3) Describe batch nitration of benzene.
- (4) Discuss various aminating agents.
- (5) Explain diaphragm gauge in detail for measuring pressure.
- (6) Explain radiation assisted liquid level measurement devices.

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

- (1) Explain zigzag separator with neat diagram.
- (2) Discuss nitration of benzene by fortified spent acid.
- (3) Describe manufacturing process of aniline from nitrobenzene.
- (4) Explain photoelectric pyrometer in detail.
- (5) Explain inclined manometer in detail.

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

- (1) Draw only diagram of transfer station.
- (2) Enlist anthropogenic sources of radiation.
- (3) Define: Ammonolysis with example.
- (4) Enlist various types of esterification reactions.
- (5) Give composition of glass in detail.
- (6) Draw only diagram of vacuum thermocouple.

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

- (1) Draw only diagram of activated sludge system.
- (2) Explain chlorine test of sewage.
- (3) Explain manufacturing of m-nitroaniline from m-dinitrobenzene.
- (4) Describe manufacturing of dimethyl aniline.
- (5) Explain Saybolt viscometer in detail.
- (6) Explain float type liquid level measurement device.

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

- (1) Explain sedimentation process of sewage with diagram.
- (2) Explain sanitary landfill with neat diagram.
- (3) Describe manufacturing of toluene with diagram.
- (4) Discuss manufacturing of vinyl acetate with neat diagram.
- (5) Explain manufacturing of glass in detail.