



NBD-003-001416 Seat No. _____

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

March / April - 2017

Industrial Chemistry : IC-401

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 labeled diagram wherever necessary.
 - (4) Assume suitable data.
 - (5) Question-1 carries 20 marks.
 - (6) Question-2 & 3 carries 25 marks each.

1 Answer the following questions : **20**

- (1) What is Thermal pollution?
- (2) Define the term 'Radiation'.
- (3) The amount of moisture available in rubbish types of solid waste is _____ %.
- (4) In which of the disposal method of solid waste, fire hazards are minimum?
- (5) Radio waves are types of _____ radiation.
- (6) What is the function of Herbicides in agriculture?
- (7) Favorable temperature in manufacturing of cellulose acetate is _____ °C.
- (8) Define: Nitration.
- (9) For manufacturing of Detergents from benzene, Alkylation process is used. (True/False)
- (10) For manufacturing of Aniline from chlorobenzene by aqueous ammonia, which byproduct is also formed?

- (11) Phenyl ethyl alcohol has rose like odour. (True/False)
- (12) Three isomers of Chloronitrobenzene are separated by _____.
- (13) By reducing which compounds, amines can be produced?
- (14) Give any two properties of glass.
- (15) For the manufacturing of laboratory apparatus _____ glass is used.
- (16) Iron oxide gives _____ color of glass.
- (17) Enlist any two essential qualities of laminated glass.
- (18) Write down principle of Vapor Actuated Thermometer.
- (19) Give any four advantages of Diaphragm Pressure Element.
- (20) Write down any three raw material names from which glass can be manufactured.

- 2** (a) Answer any **Three** : **6**
- (1) Enlist natural sources of radiation.
 - (2) Enlist anthropogenic sources of radiation.
 - (3) Draw only process flow diagram for dimethyl aniline.
 - (4) Give chemical reaction for manufacturing of dioctyl phthalate.
 - (5) Write a short note on Network modifiers of the glass.
 - (6) What is the difference between self operated and power operated instrument.
- (b) Answer any **Three** : **9**
- (1) Write a brief note on BOD.
 - (2) Draw only diagram of Transfer station.
 - (3) Explain preparation of m-dinitrobenzene with process flow diagram.
 - (4) Describe manufacturing of Ethyl acetate by batch process.
 - (5) Write a short note on lead or Flint glass.
 - (6) Explain briefly. The diaphragm seal.

- (c) Answer any **Two** : **10**
- (1) Discuss activated sludge system with diagram.
 - (2) Explain Trickling filter with neat diagram.
 - (3) Write detailed note on Optical pyrometer.
 - (4) Discuss Nitration of toluene in detail.
 - (5) Explain manufacturing of ethyl benzene in detail.
- 3** (a) Answer any **Three** : **6**
- (1) Explain C.O.D. in brief.
 - (2) Enlist sources of pesticide pollution.
 - (3) Why nitration of acetanilide to p-nitro acetanilide should be done at low temperature? Give chemical reaction also.
 - (4) Enlist various types of reduction methods for the preparation of amines.
 - (5) Explain bending and cutting of the glass finishing treatments.
 - (6) Explain any four advantages of Float type level indicator.
- (b) Answer any **Three** : **9**
- (1) Explain flotation method with diagram.
 - (2) Draw only diagram of various sedimentation tanks.
 - (3) Describe various Aminating agents.
 - (4) Explain manufacturing of m-nitroaniline from m-dinitrobenzene.
 - (5) Draw flow diagram of Glass manufacturing process.
 - (6) Write a short note on resistance thermometer circuit.
- (c) Answer any **Two** : **10**
- (1) Explain sanitary land fill method with neat diagram.
 - (2) Explain classification of water pollutants in detail.
 - (3) Discuss manufacturing of vinyl acetate in detail.
 - (4) Draw a diagram of McLeod gauge and explain in detail.
 - (5) Write detailed note on Tank furnace.