DAK-003-2014012 Seat No. _____

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

April - 2022

BS-IC-401 : Industrial Chemistry

Faculty Code : 003

Subject Code : 2014012

Time : $2\frac{1}{2}$ Hours] [Total Marks : **70**

Instructions : (1) Question paper carries total 5 questions.

(2) All the questions are compulsory and carry 14 marks each.

(3) Draw labeled diagram wherever necessary.

(4) Assume suitable data.

1 (A) Answer the following questions : **04**

(1) Give full from of COD

(2) Which separator is used to separate metal from waste?

(3) Which US based company pyrolysed plastics and produced useful products ?

(4) Which type of dumping produces flies, mosquitoes and other pests ?

1 (B) Answer in brief : (Any one out of two) **02**

(1) Draw only diagram of transfer station.

(2) Enlist types of water pollution.

1 (C) Answer in detail : (Any one out of two) **03**

(1) Discuss recycling of plastic in brief.

(2) Explain physical test for analysis of sewage.

1 (D) Write a note on : (Any one out of two) **05**

(1) Discuss trackling filter with black diagram.

(2) Explain classification of water pollutants in detail.

2 (A) Answer the following questions : **04**

(1) Noise pollution is rarely fatal. True/False ?

(2) Release of energy from an atom is known as _____.

(3) Piria method is used to preparation of amines from nitro compounds using _____

(4) Phenyethyl alcohol can be prepared by _____ reactions.

2 (B) Answer in brief : (Any one out of two) **02**

(1) Enlist sources of thermal pollution.

(2) Define : (a) Fungicides (b) Pesticides.

2 (C) Answer in detail : (Any one out of two) **03**

(1) Explain effects of radiations in brief.

(2) Enlist various types of alkylation reactions.

2 (D) Write a note on : (Any one out of two) **05**

(1) Explain manufacturing process of aniline from introbenzene with diagram.

(2) Discuss manufacturing of ethylbenzene with schematic diagram.

3 (A) Answer the following questions : **04**

(1) Favorable temperature in manufacturing of cellulose acetate is _____^{0}C.

(2) The required temperature in production of ethyl acetate from ethanol & acetic acid is _____^{0}C.

(3) Which by product formed during manufacturing of aniline from chlorobenzene by aqueous ammonia ?

(4) Preseence of which group on phenyl nucleus increase replacement of halo group by amino group ?

3 (B) Answer in brief : (Any one out of two) **02**

(1) Write reaction for production of dioctyl phthalate.

(2) Enlist various aminating agents.

3 (C) Answer in detail : (Any one out of two) **03**

(1) Write three types of esterification reactions.

(2) Discuss batch process for manufacturing of ethylacetate.

3 (D) Write a note on : (Any one out two) **05**

(1) Describe manufacturing of cellulose acetate with diagram.

(2) Describe manufacturing of aniline by continuous fixed bed vapour phase reduction of nitrobenzene with diagram.

4 (A) Answer the following questions : **04**

(1) Enlist types of measurement.

(2) measurement of temperature in milk for pasteurization process is known as _____ measurement.

(3) Convert 98^0 F in to ^{0}C.

(4) Bourdon tube is one type of _____spring.

4 (B) Answer in brief : (Any one out two) **02**

(1) Give principle of rotational viscometer.

(2) Discuss various criteria for resistance wire.

4 (C) Answer in detail : (Any one out two) **03**

(1) Draw diagram of resistance thermometer circuit.

(2) Write a note on recording instrument.

4 (D) Write a note on : (Any one out of two) **05**

(1) Explain mercury in Glass thermometer with diagram, application and uses.

(2) Explain falling sphere viscometer in detail.

5 (A) Answer the following questions : **04**

(1) Which pressure is the total pressure exerted by a fluid?

(2) In diaphragm box system level measurement, diaphragm is filled up with _____.

(3) In Pirani gauge, reference filament is sealed in evacuated _____.

(4) Write the unit of density.

5 (B) Answer in brief : (Any one out of two) **02**

(1) Draw only diagram of bubbler system.

(2) Explain advantages of radiation assisted liquid level measurement.

5 (C) Answer in detail : (Any one out of two) **03**

(1) Explain air trap system with diagram.

(2) Explain hook type liquid level measurement in detail.

5 (D) Write a note on : (Any one out of two) **05**

(1) Explain ionization gauge with neat diagram.

(2) Explain liquid column (U tube) manometer in detail with application & construction.
