SLR-DM-23

Seat No.	

Set P

B.Sc. (Semester - II) (CBCS) Examination Oct/Nov-2019
Entrepreneurship
Industrial Chemistry (Paper - II)
FUNDAMENTALS OF ANALYTICAL CHEMISTRY

Day & Date: Friday, 11-10-2019 Max. Marks: 70
Time: 11:30 AM To 02:00 PM

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labeled diagrams wherever necessary.

Q.1 Fill in the blanks by choosing correct alternatives given below. 14

1) The mixing of two or more gases is a _____.
   a) spontaneous b) Non- spontaneous
   c) reversible d) irreversible

2) The efficiency of a heat engine is _____.
   a) zero b) one
   c) less than one d) greater than one

3) For an adiabatic change _____.
   a) P=0 b) W=0
   c) q=0 d) q=w

4) _____ of the following is a synthetic polymer.
   a) Starch b) Silk
   c) Wool d) Polythene

5) Low density polyethylene has a _____ structure.
   a) linear b) branched
   c) cross-linked d) None of these

6) The polymers which are made from more than one type of monomers are known as _____.
   a) homo polymer b) co-polymer
   c) Linear chain polymers d) Cross -linked polymers

7) In a mixture of iso-octane and n-heptane if the percentage of n-heptane is 10, then octane number of the fuel is _____.
   a) 10 b) 80
   c) 90 d) 100

8) Knocking sound is produced in engine when the fuel _____.
   a) Burns rapidly b) Burns slowly
   c) Contain water d) Contaminated with lubricating oil

9) Cracking Process is used _____.
   a) To prepare cyclic compound b) To prepare lower paraffins
   c) To prepare higher paraffins d) None of these

10) The BOD is expressed in _____.
   a) Mg/dm^3 b) g/dm^3
   c) Kg/1 d) g/1

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11) The human body is composed of about _____ percentage of water by weight.
a) 60 b) 50
c) 40 d) 70

12) _____ of the following has anti-cancer property.
a) Cis-platin b) Magnesium hydroxide
c) Aluminum phosphate d) Aluminum hydroxide

13) The molecular weight of _____ polymer is the sum of molecular weight of constituent monomer.
a) Addition b) condensation
c) Artificial d) semi synthetic

14) All natural processes are _____.
a) Reversible b) spontaneous
c) Non-spontaneous d) adiabatic

Q.2 A) Answer the following questions. (Any Four) 08

1) Define the terms.
   i) Monomer
   ii) polymer
2) What do you meant by enthalpy?
3) Give the importance of octane number.
4) Write the steps involved in carnot cycle.
5) Explain hard & soft water.

B) Write short notes (Any Two) 06

1) Addition & condensation polymers
2) Types of fuel.
3) Chemical composition of milk

Q.3 A) Answer the following questions. (Any Two) 08

1) State & Explain Hess law of heat of mixing.
2) Gives the synthesis & use of PVC.
3) Explain in details types of water.

B) Answer the following questions. (Any One) 06

1) Explain adulteration of milk in details. How it is detected?
2) Distinguish between spontaneous & non-spontaneous process.

Q.4 A) Answer the following questions. (Any Two) 10

1) Write a note on essential nutrients of plants.
2) Give the various statements of second law of thermodynamics.
3) Explain calorific value & heating value.

B) Answer the following questions. (Any One) 04

1) Explain Joule -Thompson effect.
2) Gives the synthesis & application of polyethylene.

Q.5 Answer the following questions. (Any Two) 14

a) What is the polymer? Explain various types of polymers.
b) What is meant by heat engine? Explain the efficiency of heat engine on the basis of Carnot's cycle.
c) Explain cracking & octane number of fuel in details.

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