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END SEMESTER EXAMINATION – 2019

Semester : 2nd (New)

Subject Code : Sc-203

CHEMISTRY - II

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Instructions :

1. All the questions of PART – A are compulsory.
2. Answer any five questions from PART – B.

PART – A

Marks – 25

1. Fill in the blanks : 1×10=10
 - (a) Earth is protected from UV radiation by _____.
 - (b) A mineral used in the extraction of metal is called _____.
 - (c) Water gas is a mixture of _____.

[Turn over

- (d) The substance used to reduce the early initial setting of cement is _____ lubricant.
- (e) Grease is a _____ lubricant.
- (f) Galvanisation is a process of coating iron sheets with a thin layer of _____.
- (g) Bakelite is an example of _____ resin.
- (h) The organic gas used in welding is _____.
- (i) Full form of T.O.C is _____.
- (j) Bauxite is an ore of _____.
2. Write true or false : $1 \times 10 = 10$
- (a) Flux combine with gangue to form slag.
- (b) Glass is a mixture of metallic acetates.
- (c) The viscosity of a lubricant is measured by a barometer.
- (d) Monomer unit in Teflon is tetrachloroethylene.
- (e) Alkanes are also called paraffin.

- (f) C.N.G is a polluted fuel.
- (g) Corrosion reaction is an example of oxidation reaction.
- (h) Roasting is applicable to carbonate ore.
- (i) TEL is an antiknock compound.
- (j) Toluene is a heterocyclic compound.

3. Choose the correct answer : $1 \times 5 = 5$

- (a) Which of the following is a liquid form of aerosol ?
- (i) Fume (ii) Dust
- (iii) Mist (iv) Smoke
- (b) Brass is a
- (i) Metal (ii) Non-metal
- (iii) Metalloid (iv) Alloy
- (c) For heavy cutting, the effective lubricants are
- (i) Coconut oil (ii) Cutting oil
- (iii) Kerosene oil (iv) Diesel oil



- (d) Vulcanization of rubber is carried out by adding
- (i) phosphorus
 - (ii) carbon
 - (iii) sulphur
 - (iv) nitrogen
- (e) An isomer of Ethanol is
- (i) Methanol
 - (ii) Dimethyl ether
 - (iii) Acetone
 - (iv) Diethyl ether.

PART - B

Marks - 45

4. (a) What is Greenhouse effect ? 2
- (b) What is primary and secondary pollutants ? Explain with examples. 3
- (c) Compare open-hearth process and Bessemer process for manufacturing steel. 4
5. (a) Give the % composition and uses of Brass and Duralumin. 3
- (b) What is knocking and octane number ? Explain. 3

103/Sc-203/Chem-II(N) (4)

3000(B)

- (c) Differentiate between high temperature and low temperature carbonization of coal. 3

6. (a) Write the average chemical composition of glass. 2

- (b) What is Portland cement ? How it is manufactured by the wet process ? 1+3=4

- (c) What is lubricating emulsion ? Write the characteristics of a good lubricant. 1+2=3

7. (a) Define polymerisation. Differentiate between Addition and Condensation polymerisation with example. 2+3=5

- (b) What is corrosion ? Give the mechanism of rusting of iron by electrochemical theory. 1+3=4

8. (a) Give the structural formula of the following compounds : 3

(i) propane 1,2,3 triol

(ii) 2,2,5 trimethyl heptane

(iii) Ethanoic acid

103/Sc-203/Chem-II(N) (5)

[Turn over



(iv) Acid rain.



103/Sc-203/Chem-II(N)

(6)

3000(B)

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(b) Write the functional group of Ether and Aldehyde. 2

(c) How Methane is prepared in the laboratory ? Discuss its properties and uses. 2+2=4

9. Discuss the following (any *three*) : 3×3=9

(i) Isomerism in organic compounds

(ii) Refining of petroleum

(iii) Thermite welding

(iv) Acid rain.

