Sc-203/Chem-II/2nd-Sem/Comm/2017/M

# CHEMISTRY – II

Full Marks – 70

Pass Marks – 21

Time – Three hours

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

Answer question No.1 and any *six* from the rest.

1. (a) Fill in the blanks : 1×5=5

(i) ——— is the lightest organic compound.

(ii) Polythene is a ——— polymer.

(iii) Water gas is chiefly a mixture of CO and ——— .

(iv) The value of C.O.D is ——— than that of B.O.D.

(v) Spiegel is an alloy of carbon, iron and ———.

(b) Choose the correct answers : $1\times5=5$

(i) Magnetite is an ore of
Magnesium / Manganese / Iron / Aluminium.

(ii) Flux combines with gangue to form
Precipitate / Amalgam / Anodemud / Slag.

(iii) Gypsum is added to cement to
increase the setting time / decrease the setting time/ decrease the cost of production / decrease the time of manufacture 6.6.

(iv) Nylon 6,6 is a
Polyacid / Polyamide / Polyester / Polyisoprene.

(v) Lactic acid exhibits
functional isomerism / cis-trans isomerism / optical isomerism / position isomerisim.

2. (a) What is GreenHouse effect ? Give names of four Greenhouse gases. $2+2=4$

(b) Mention the different sources of water pollution. 3

(c) What are Carcinogens ? Give examples. 3

3. (a) Differentiate between Roasting and Calcination. 2

(b) What is Flux ? Classify Flux with examples. 1+2=3

(c) How is Steel manufactured by Open-hearth process ? 5

4. (a) Distinguish between Gross Calorific value and Net Calorofic value. 3

(b) Give the names of different products of carbonisation of bituminous coal. 3

(c) Write short notes on Octane number, Flash point. 2+2=4

5. (a) Give the chemical reactions involved in manufacturing of Portland cement. 2

(b) Explain with flow sheet, the wet process of manufacturing Portland cement. 4

(c) Mention the important functions of a lubricant. 4

6. (a) What is metallic corrosion ? What are the different types of corrosion ? 2+2=4

(b) On the basis of electro-chemical theory, give the mechanism of rusting. 3

(c) How corrosion can be controlled ? 3

7. (a) Give three points of differences betweeen thermoplastic and thermosetting resin. 3

(b) Write the structural formula and I.U.P.A.C names of the isomers having molecular formula $C_5H_{10}$. 3

(c) Give one example of each of the following : 4

(i) Oxidation reaction

(ii) Addition reaction

(iii) Substitution reaction

(iv) Polymerisation reaction.

8. (a) Classify hydrocarbons with examples. 4

(b) How is ethene prepared in laboratory ? 3

(c) Give the halogenation reactions of methane. 3