

Roll No.

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UG (CBCS) IInd Year Annual Examination
2803

B.Sc. CHEMISTRY

(Fuel Chemistry & Chemistry of
Cosmetics & Perfumes)

(SEC-2)

Paper : CHEM 204 TH

Time : 3 Hours]

[Maximum Marks : 70

Note :— Attempt *five* questions in all, selecting *one* question from each Sections A, B, C and D. Section-E is compulsory.

Section-A

1. (a) Discuss advantages and disadvantages of solid fuels.
- (b) What is metallurgical coke ? What are requisites of metallurgical coke ?
- (c) Write notes on the following :
 - (i) Producer gas
 - (ii) Water gas

5,5,5

CH-103

(1)

Turn Over

2. (a) Give classification of fuels and mention the criteria of selecting a good fuel.
- (b) What is coal liquification ? Discuss Fischer-Tropsch process of coal liquification.
- (c) Discuss merits and demerits of gaseous fuel over liquid and solid fuel. 5,5,5

Section-B

3. (a) Define lubricants. Explain Fluid lubrication and Boundary lubrication.
- (b) What are synthetic fuels ? Write notes on synthetic natural gas and oil gas.
- (c) What is refining of petroleum ? Discuss the steps involved in refining of petroleum. 5,5,5
4. (a) Write note on synthetic lubricating oils.
- (b) What is cracking ? Discuss thermal cracking in detail.
- (c) Explain the factors on which electrical conductance of an oil depends. 5,5,5

Section-C

5. (a) What are minor constituents of cosmetics ? Discuss.
- (b) Discuss chemical composition of lipsticks.

- (c) Give formulation to prepare artificial banana flavour. 5,5,5
6. (a) What are suntan lotions ? What are characteristics of an ideal suntan lotion ? Discuss principle of effectiveness of suntan.
- (b) Discuss chemical composition of shaving cream.
- (c) Give formulation to prepare artificial apple flavour. 5,5,5

Section-D

7. (a) Write note on 2-Phenyl ethyl alcohol and its uses.
- (b) Give I.U.P.A.C. names and structure of Civetone and Muscone.
- (c) Write note on rose oil and its uses. 5,5,5
8. (a) Write note on eucalyptus oil and its uses.
- (b) Give I.U.P.A.C. names and structures of Eugenol and Geraniol.
- (c) Give structure of *cis*- and *trans*-Jasmone. Discuss use of Jasmone in cosmetics. 5,5,5

Section-E

(Compulsory Question)

9. (a) Point out True/False :
- (i) *n*-Heptane has poor knocking quality and is given octane number zero, while *iso*-octane has octane number 100.

- (ii) Mica, silica and bismuth oxychloride are added to lipstick to give a glittery shine.
- (iii) Liquid Petroleum Gas (LPG) mainly is a mixture of butane and propylene.
- (iv) Suntan lotions are used to lighten the skin colour by absorbing uv light.
- (v) Antidandruff shampoos contain additives like selenium disulphide, camphor etc.

(b) Fill in the blanks :

- (i) Isoamyl acetate has flavour.
- (ii) The temperature at which the fuel when heated catches fire and continue to burn is called its
- (iii) Cyclic alkanes have octane number than corresponding straight chain hydrocarbons.
- (iv) The strong smelling substance added to LPG to detect gas leakage is
- (v) The lubricant with pour point can be used in low temperature conditions.

1×10=10