

Roll No.

Total No. of Questions : 9]
(2042)

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UG (CBCS) IInd Year Annual Examination

2087

B.Sc. CHEMISTRY

(Fuel Chemistry and Chemistry of
Cosmetics and Perfumes)

(SEC-2)

Paper : CHEM 204 TH

Time : 3 Hours]

[Maximum Marks : 70

Note :- Attempt *five* questions in all, selecting *one* question from each Section. Section E is compulsory.

Section-A

- (a) What do you mean by Carbonisation ? Discuss process of carbonisation in detail.
- (b) Distinguish between gross calorific value and net calorific value.
- (c) What are renewable and non-renewable sources of energy ? Discuss in detail.

5,5,5

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Turn Over

(1)
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2. (a) Explain solvent refining of coal in detail.
- (b) Discuss merits and demerits of gaseous fuel over liquid and solid fuels.
- (c) What are the requirements of a good metallurgical coke ? 5,5,5

Section-B

3. (a) What do you mean by reforming ? Explain the reactions taking place in reforming in detail.
- (b) Write short notes on the following :
- (i) Butadiene
- (ii) Propylene Oxide
- (iii) Petroleum fuels
- (c) What are Lubricating Oils ? Explain the factors on which electrical conductance of an oil depends. 5,5,5

4. (a) What is Biodiesel ? How is it produced ? Explain its advantages.
- (b) What are Synthetic Fuels ? Explain composition and formation of two synthetic gas fuels.
- (c) What are Greases ? Discuss their properties, types and characteristics. 5,5,5

Section-C

5. (a) Write notes on the following :
- (i) Face powders
- (ii) Lipstics
- (iii) Vanishing creams
- (b) Define Shampoo. Explain the composition of shampoos and their preparation.
- (c) What are Suntan Lotions ? How are these different from sun creams ? Discuss their properties and uses. 5,5,5

6. (a) Discuss the action of antiperspirants in preventing the perspiration.

(b) What are cosmetics and how are they classified ?

(c) Write common ingredients of :

(i) Lipstics

(ii) Shaving creams

(iii) Castor oil based hair spray 5,5,5

Section-D

7. Discuss properties and cosmetic uses of following essential oils :

(a) Sandal wood oil

(b) Jasmine

(c) 2-phenylethyl alcohol 5×3=15

8. (a) Define essential oils. What is their importance in cosmetic industry. Also give their uses. 5

CH-806

(4)

(b) Give structure of :

(i) Eugenol molecule

(ii) Geraniol molecule

(iii) Trans Jasmine

(iv) Muscone

(v) Civetone 5×2=10

Section-E

(Compulsory)

9. (I) Multiple choice questions :

(i) Eucalyptus oil is :

(a) Sedative

(b) Analgesic

(c) Toxic

(d) All of these

(ii) Major component of pure talc. is :

(a) Mag O

(b) SiO₂

(c) CaCO₃

(d) CaO

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(5)

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(iii) The additive that increases the conductance of lubricating oil is :

- (a) Graphite
- (b) Silicone grease
- (c) Bauxite
- (d) Zinc dithiophosphate

(iv) Quality of gasoline is based on :

- (a) Octane number
- (b) Cetane number
- (c) Flash point
- (d) Ignition temperature

1×4=4

(II) Fill in the blanks :

- (i) Sulphur is removed from synthetic gasoline using
- (ii) Oil gas is produced by

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(6)

(iii) is an antibacterial agent added to cosmetics.

(iv) is used as preservative in the form of formalin in cosmetics. 1×4=4

(III) True/False :

(i) Isoprene is the repeating unit of synthetic rubber. (True/False)

(ii) Among different varieties of coal, anthracite has highest percentage of C. (True/False) 1×2=2

CH-806

(7)