

[This question paper contains 3 printed pages.]

Your Roll No.

5138

B

B.Sc. Prog./II

IC-202—Fossil Fuels and Fermentation Industries

(Admissions of 2005 & onwards)

Time : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt six questions in all.

Q. No. 1 is compulsory.

1. Attempt any five of the following : 5×3=15

- (i) How is civetone synthesized ?
- (ii) Briefly describe the properties of catalysts.
- (iii) Differentiate between fat and oils with examples.
- (iv) Write a note on Bio gas.
- (v) What are main ingredients of hair sprays ? Discuss the disadvantages of Shellac.
- (vi) Differentiate in Low temperature carbonization and High temperature carbonization.

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2. (i) Write a note on phase transfer catalyst or zeolites.
(ii) Discuss Oxo-process in detail.
(iii) Discuss the difference between homogeneous and heterogeneous catalysis with examples. $3 \times 4 = 12$
3. (i) Define the following terms :
(a) Viscosity index
(b) Pour point
(c) Cloud point.
(ii) Discuss solid and semisolid lubricants.
(iii) Differentiate between conducting and non-conducting lubricating oils. $3 \times 4 = 12$
4. Write short notes on the following : $3 \times 4 = 12$
(i) CNG
(ii) Synthetic fuels
(iii) LPG
5. (i) Define saponification. Name *two* most common solvents generally used for the extraction of oils and fats.
(ii) What do you mean by rancidity ? How does hydrolytic rancidity differ from oxidative rancidity ?
(iii) How do non-ionic detergents differ from anionic detergents ? $3 \times 4 = 12$

6. (i) (a) Why are hair sprays called aerosol products ?
(b) What are antiperspirants ?
(c) Write down uses of main ingredients of Lipsticks.
- (ii) Describe various methods for the isolation of essential oils from plants. $2 \times 6 = 12$
7. (i) Give the uses of streptomycin and name of the strain used for its production.
- (ii) Explain the production of the following by fermentation (any one) :
(a) Citric acid
(b) Lysin.
- (iii) How will you obtain ethyl alcohol from molasses by fermentation ? $3 \times 4 = 12$
8. (i) Write down the sources and method of extraction of Sandalwood oil and Eucalyptus oil.
- (ii) Write a note on soap additives.
- (iii) Write a note on Vitamin B₁₂. $3 \times 4 = 12$