

[This question paper contains 4 printed pages.]

3854

Your Roll No. ....

B.Sc. Prog./II

IS

IC-202 – Fossil Fuels and Fermentation Industries

(NC – 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.
  - (i) What are the main ingredients of hair sprays ?
  - (ii) Write a note on detergent builders.
  - (iii) Write down a method for the production of Geraniol
  - (iv) Write a note on Biogas.
  - (v) What is the difference between aerobic and anaerobic fermentation ? (3×5=15)
2.
  - (i) What do you understand by coal carbonization ?

P.T.O.

Give the difference between high temperature and low temperature carbonization.

(ii) What is water gas ? Give its composition and uses.

(iii) What is coal tar ? Give an account of the various fractions obtained by the distillation of coal tar.

(iv) Write down uses of coal. (3×4=12)

3. (i) Define the following terms :

(a) Viscosity index      (b) Pour point

(c) Cloud point      (d) Reforming

(ii) Discuss solid and semi solid lubricants.

(iii) What is synthetic Petrol ? Describe the process of its manufacture. (4×3=12)

4. (i) Differentiate between fats and oils.

(ii) What do you understand by rancidity ? How does hydrolytic rancidity differ from oxidative rancidity ?

(iii) Define saponification.

- (iv) How do non ionic detergents differ from anionic detergents ? (3×4=12)
5. (i) What are characteristics of good Lipsticks ?  
Write down the uses of main ingredients with examples.
- (ii) (a) Why are hair sprays called aerosol products ?
- (b) What are antiperspirants ?
- (iii) Describe various methods for the isolation of essential oils from plants. (4×3=12)
6. (i) What are catalysts ? Give general properties of catalysts.
- (ii) Explain the regeneration and deactivation of catalysts.
- (iii) Write a note on Zeolites. (4×3=12)
7. (i) Discuss the method for the production of Glutamic acid by fermentation.
- (ii) What is the composition of waste mother liquor remaining after the crystallization of sucrose in sugar mill operation. How is ethanol prepared from this material ?

P.T.O.

(iii) Name the strains used in the production of  
(a) Chloromycetin (b) Lysin (c) Vitamin C.

(iv) Describe the fermentation process for the  
production of Penicillin. (3×4=12)

8. Write short note on any **three** of the following :

(i) Monsanto process

(ii) Soap additives

(iii) CNG

(iv) Vanishing and Shaving creams (4×3=12)