

This question paper contains 4 printed pages]

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S. No. of Question Paper : 1836

Unique Paper Code : 217463

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Name of the Paper : Industrial Chemistry-IV (ICPT-404)

Name of the Course : B.Sc. (Applied Physical Science) Industrial Chemistry

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

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

Attempt six questions in all.

Question No. 1 is compulsory.

1. Attempt any *five* of the following :

- (a) What do you understand by anti-inflammatory agents ? Give synthesis of Ibuprofen.
- (b) What is the difference between moisturizer and cold cream ? Give the composition of the cold cream.
- (c) Write the structure of the following :
 - (i) Chloroamhenicol
 - (ii) AZT-Zidovudine
 - (iii) Parathion
- (d) Explain the difference between anti-viral and anti-biotic with examples.
- (e) Write merits and demerits of pesticides.

P.T.O.

- (f) What are essential oils? Give their importance in daily life.
- (g) Differentiate between aerobic and anaerobic fermentation. 5.3
2. (a) Explain the understanding of structure activity relationship. Discuss with the example of any *one* sulpha drug.
- (b) Discuss the drug working through Central Nervous System. Give preparation of any *one* drug of this family.
- (c) Name any *two* Indian and *two* Multi-National pharmaceutical companies.
- (d) Which chemical compound is used in cardiovascular problems? Write its *one* application other than a drug. 4.4.2.2
3. (a) Name the strains used in the production of the following :
- (i) Citric acid
 - (ii) Vitamin C
 - (iii) Vitamin B₁₂
 - (iv) Lysine
- (b) How will you obtain ethyl alcohol from molasses by fermentation?
- (c) Write short notes on the following :
- (i) Enzyme
 - (ii) Chloromycetin. 4.4.4

4. (a) Give synthesis of the following :
- (i) Malathion
 - (ii) Carbofuran
- (b) Briefly explain essential characteristics of biodegradable pesticides.
- (c) Which conformer of BHC makes Gammexane ? Write structures and % composition of different isomers.
- (d) Classify the pesticides based on the type of pest for which they are used. 4.4.2.2
5. (a) What makes Suntan lotion an essential cosmetics ? Write its main composition.
- (b) Give the formulation of the following (any *two*) :
- (i) Lipsticks
 - (ii) Talcum powder
 - (iii) Nail enamels
- (c) Mention the difference between deo and perfume.
- (d) Why is it recommended to use conditioner after shampoo ? Explain in terms of chemical composition. 4.4.2.2
6. (a) Give the structure of any *four* of the following :
- (i) Trimethoprim
 - (ii) Eugenol
 - (iii) Paracetamol
 - (iv) Geraniol
 - (v) DDT
 - (vi) Phenobarbital

- (b) Explain retrosynthetic approach for drug development.
- (c) Differentiate the following :
- (i) Drug and poison
 - (ii) HIV and AIDS. 4.4.4
7. (a) Give the preparation of any *two* of the following :
- (i) Butachlor
 - (ii) Aspirin
 - (iii) Hair Spray
- (b) Write a short note on penicillin.
- (c) Write the application of fermentation in daily life.
- (d) What are anti-dandruff agents ? Name any *one*. 4.4.2.2
8. (a) What are vitamins ? Differentiate between Vitamin B₁₂ and Vitamin B₂ :
- (b) Write short notes on the following :
- (i) Drug designing
 - (ii) Anti-fungal agents
 - (iii) Natural and synthetic dye. 3.9