

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 6973

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Your Roll No.....

Unique Paper Code : 217463

Name of the Course : **B.Sc. (Applied Physical Science) Industrial Chemistry (ICPT-404)**

Name of the Paper : Industrial Chemistry – IV

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

Instructions for Candidates

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

2. Attempt **six** questions in all.

3. Question No. **1** is compulsory.

1. (a) Give the mode of action of antipyretics ?

(b) Why DDT is called hard pesticide ? Explain the mode of action.

(c) Differentiate between aerobic and anaerobic fermentation.

(d) What is bacteriostatic and bactericidal action ?

(e) What is humectant ? Give its desirable properties ? (3,3,3,3,3)

2. Classify any **three** of the following drugs and give their synthesis :

(a) Paracetamol

(b) Chloramphenicol

P.T.O.

- (c) Phenobarbital
- (d) Acyclovir (4,4,4)
3. (a) Name an antileprosy drug and give its method of preparation ?
- (b) Mention the trade name of aspirin and its method of synthesis ? What is Disprin ?
- (c) (i) Name two pharmaceutical companies manufacturing drugs in India ?
- (ii) How is AZT-Zidovudine synthesized ? (3,4,5)
4. (a) What are carbamates ? How is carbaryl synthesized ? Which company introduced this pesticide in 1958 ?
- (b) Classify Alachor, give its synthesis and what are its advantages over organochloro pesticide ?
- (c) Give the synthesis and uses of any **two** of the following :
- (i) DDT
- (ii) Parathion
- (iii) Carbofuran (4,4,4)
5. (a) How is ethanol manufactured from molasses ? Give the flow sheet diagram, also mention the uses of ethanol ?
- (b) What is 7-ACA ? Give its structure ? (9,3)

6. (a) Enlist the uses of citric acid ?
- (b) Name the micro-organism used in manufacture of following compounds by Fermentation ? (any five)
- (i) Glutamic acid
 - (ii) Penicillin
 - (iii) Chloromycetin
 - (iv) Vitamin B₂
 - (v) Vitamin B₁₂
 - (vi) Lysine
- (c) Write a note on synthetic penicillins ? (2,5,5)
7. (a) What is the composition of modern oxidation dyes ? Briefly explain the role of each component ?
- (b) Name a natural organic dye and give the structure of its active coloring component ?
- (c) Write a note on conditioning agents and clarifying agents used as additives in shampoos ? (6,2,4)
8. Given below are the formulations of cosmetics. Recognise them and also explain the essential characteristics of these cosmetics ? Give the name of a company that manufactures them ?

Formulation I

Formulation II

Zinc Stearate

Beewax

6973

Zinc oxide

Titanium Oxide

Calcium Carbonate

Hydrated Magnesium silicate

Perfume

4

Mineral Oil

Borax

Distilled water

Perfume

(6,6)