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L 1157

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Third Semester

Chemical Engineering

CH 236 — ORGANIC CHEMISTRY

(Common to Leather Technology/Textile Chemistry/Textile Technology)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are reducing sugars? Give two examples.
2. How do waxes differ from fats?
3. Write the resonance structures of pyridine.
4. What is the role of auxochromes in a dye? Give one example.
5. How is phenolphthalein prepared?
6. What are conjugated proteins?
7. What happens when glucose reacts with HI/P?
8. Write the structure of isopentaquine. Mention its medicinal value.
9. Compare the stability of carbon-metal bond in methyl lithium and methyl Magnesium compounds.
10. How will you obtain Indole?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Sucrose is known as Invert Sugar – Account for this. (8)
(ii) How will you prepare Cellulose Nitrate and ethyl cellulose? Mention their industrial uses. (8)

Or

- (b) (i) Draw the ring structure of glucose and describe how it reacts with the following reagents.
(1) Acetic anhydride
(2) Methyl Alcohol. (8)
(ii) What are the important types of waxes? Give suitable examples. (8)
12. (a) (i) Define Iodine number of a fat or oil. How will you determine it? (8)
(ii) Describe how Grignard reagent is used to prepare primary, secondary and tertiary alcohols. (8)

Or

- (b) (i) What are azo dyes? How is methyl orange prepared? (8)
(ii) Describe Witt's theory of colour and constitution. (8)
13. (a) (i) Pyrrole undergoes electrophilic substitution reaction at C-2, but not C-3. Why? (8)
(ii) What is piperidine? How is it prepared? Mention its uses. (8)

Or

- (b) (i) Draw the structure of cellulose and explain the nature of linkage present in it. (8)
(ii) What do you understand by anti-bacterial drugs? Give atleast two examples with their structure. (8)
14. (a) (i) How will you synthesize chloroquine drug? Explain. (8)
(ii) Compare the oxidation reactions of glucose and fructose with Con.HNO_3 . (8)

Or

- (b) (i) What are sulpha drugs? Explain one method of preparation of sulphanilamide. (8)
- (ii) Write a brief note on :
- (1) Denaturation
- (2) Mutarotation. (8)
15. (a) (i) How will you synthesize malachite green? Mention its uses. (8)
- (ii) Explain how proteins are identified by the following qualitative tests.
- (1) Xanthoproteic Test.
- (2) Biuret Test. (8)

Or

- (b) (i) How do you prepare Alizarin? Explain how it acts as a mordant dye. (8)
- (ii) With chemical reactions show how pyridine reacts with the following :
- (1) Hot Con. H_2SO_4
- (2) HI
- (3) Sodamide
- (4) NaOH. (8)