

Question Paper

Exam Date & Time: 09-Jun-2023 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER BSC. HEALTH SCIENCE DEGREE EXAMINATION - JUNE 2023
SUBJECT: BHS-202 - ORGANIC CHEMISTRY II

Marks: 75

Duration: 180 mins.

Answer all the questions.

Answer the following questions briefly.

- 1A) CH_3CHO is more reactive than CH_3COCH_3 towards reaction with HCN . Why? Explain it. (2)
- 1B) Arrange in increasing order of basic strength and explain it (2)
 $\text{C}_6\text{H}_5\text{NH}_2$, $\text{C}_6\text{H}_5\text{N}(\text{CH}_3)_2$, $(\text{C}_2\text{H}_5)_2\text{NH}$ and CH_3NH_2
- 1C) Give the conversions from Isopropyl alcohol to acetone. (2)
- 1D) Explain why: (2)
i) The C–N–C bond angle in trimethyl amine is 108°
ii) The quaternary ammonium salts having four different alkyl groups are optically active.
- 1E) Write a note on UV Visible spectroscopy. (2)
- 1F) Draw the structure of lactose. (2)
- 1G) What are the various types of bond vibrations in IR spectroscopy. (2)
- 1H) What is Grignard reagent? What are the solvents used in its preparation? (2)
- 1I) What are deficiency caused by the lack of vitamin A and D? What are their main sources? (2)
- 1J) Give any two differences between soap and detergents. (2)
- 1K) What are conjugated proteins? Give example. (2)
- 1L) Explain the hydrogenation of oil and fats. (

- 1M) What are the properties of electromagnetic radiation? (2)
- 1N) Calculate the frequency and energy of radiation with wavelength 400 nm. (2)
- 1.
2. Answer the following questions.
- 2A) Give the preparation and properties of SBR. (3)
- 2B) Write short notes on the following: (3)
(i) Carbylamine reaction (ii) Diazotisation
- 2C) A triglyceride has a molecular weight of 950 and contains three double bonds. Calculate the: (i) saponification number and (ii) iodine number. (3)
- 2D) Give the number of peaks obtained in the NMR spectra of the following compound. (3)
(i) Acetic acid (ii) Phenol (iii) Ethylbenzene

Answer the following questions.

- 3A) Explain the following with an example for each: (5)
(i) Kolbe's reaction.
(ii) Reimer-Tiemann reaction.
- 3B) What are carbohydrates? Explain the classification of carbohydrates with relevant examples for each. (5)

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