

# Question Paper

Exam Date & Time: 25-May-2024 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER BSc. HEALTH SCIENCE DEGREE EXAMINATION - MAY 2024  
SUBJECT: BHS-202 - ORGANIC CHEMISTRY - II

Marks: 75

Duration: 180 mins.

Section Duration: 40 mins

Answer all the questions.

- 1A) Explain the NMR spectrum of 1,3-dimethyl benzene. (2)
- 1B) What are the various vibration modes of IR spectroscopy. (2)
- 1C) Define iodine number. (2)
- 1D) Give an example each for aromatic and aliphatic amino acids and their structures. (2)
- 1E) How is collodion prepared? Mention its use. (2)
- 1F) Draw the structure of  $\beta$  - lactose. (2)
- 1G) Explain Sandmeyer reaction with an example. (2)
- 1H) How do you prepare biphenyl from aryl halide? (2)
- 1I) Mention water soluble vitamins and their sources. (2)
- 1J) Draw the basic skeletal ring structure of steroids. (2)
- 1K) Explain the synthesis of terylene. (2)
- 1L) Discuss the nomenclature of primary amines. (2)
- 1M) Explain the mechanism for the synthesis of salicylic acid from phenol (Kolbe's reaction). (2)
- 1N) Explain the reaction of ketones with hydrazine and hydroxylamine. (2)

Answer all the questions.

- 2A) Explain the classification of carbohydrates with examples. (3)
- 2B) Explain the tertiary and quaternary structure of proteins. (3)
- 2C) Differentiate between the following: (3)
- i) Addition and condensation.
- ii) Thermoplastic and thermosetting.
- 2D) How to distinguish between aldehydes and ketones? Explain with reactions. (3)

Answer all the questions.

- 3A) Explain the preparation and the uses of the following compound from salicylic acid: (5)
- i) Aspirin
- ii) Methyl salicylate
- 3B) i) Explain in detail any one method of separation of primary, secondary and tertiary amines? (5)
- ii) Discuss the free radical mechanism of polyethylene.

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