

Question Paper

Exam Date & Time: 06-Jan-2023 (02:30 PM - 05:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.TECH MAKE-UP EXAMINATIONS, DEC-2022/JAN-2023

BASIC CLINICAL SCIENCE - I [BME 3151]

Marks: 50

Duration: 180 mins.

A

Answer all the questions.

Instructions to Candidates:

1. Missing data may be suitably assumed
2. Draw neat diagrams wherever necessary

- 1) List the different types of ultrasound transducers and its applications. (3)
 - A)
 - B) Discuss the ECG findings of complete heart block. (3)
 - C) Discuss importance of FFR in management of coronary artery disease. (4)
- 2) Explain the internal and external anatomy of right ventricle. (3)
 - A)
 - B) What are the consequences of total body radiation dose exposure to 6 Gray? (3)
 - C) How microwaves were produced in a Magnetron device? (4)
- 3) Explain the effect of radiation exposure on the future risk of developing radiation induced cancers. (3)
 - A)
 - B) Write a short note on interstitial brachytherapy. (3)
 - C) Describe grids with diagram; describe what is the grid ratio. (4)
- 4) Define intensifying screens. Draw the construction of the intensifying screen. Enumerate the ideal properties of Phosphor. (5)
 - A)
 - B) Name at least four basic interactions of x-rays with matter. Mention which among these interactions does not cause ionization and which one is responsible for the production of Characteristic radiation. (3)
 - C) What is the role of static and dynamic exercises in rehabilitation? (2)
- 5) Describe electro-induction of bone growth. (3)
 - A)

- B) Explain muscle power grading according to MRC. (3)
- C) Compare the use of stainless steel and titanium in making of orthopaedic implants with their uses and drawbacks. (4)

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