

Question Paper

Exam Date & Time: 04-Dec-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. MEDICAL RADIOTHERAPY TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018

**SUBJECT: BRTT 301 - PRINCIPLES AND PRACTICE OF RADIOTHERAPY: PART I
(2016 SCHEME)**

Tuesday, December 04, 2018 (14.00 - 17.00)

Answer ALL questions.

Marks: 100

Duration: 180 mins.

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| 1A) | Discuss Patient preparation, simulation and reduplication of treatment. | (20) |
| 1B) | What is multidisciplinary approach in cancer care? | (20) |
| 2A) | Acute side effects of radiotherapy and prevention of acute side effects. | (10) |
| 2B) | Causes of death due to cancer | (10) |
| 3A) | Linear Accelerator | (5) |
| 3B) | Brachytherapy : Rationale and Sources used | (5) |
| 3C) | Physical effects of chemotherapy on the body | (5) |
| 3D) | Survival and Results in Cancer | (5) |
| 3E) | TNM staging of cancer | (5) |
| 3F) | Complications due to cancer | (5) |
| 4A) | Name any two late side effects due to radiation therapy. | (2) |
| 4B) | 4 R's of radiobiology | (2) |
| 4C) | Hypofractionation | (2) |
| 4D) | Radical vs Palliative intwent of treatment | (2) |
| 4E) | Define Neoplasia, add a note on its development within the patient. | (2) |

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Question Paper

Exam Date & Time: 07-Dec-2018 (02:00 PM - 04:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. MEDICAL RADIOTHERAPY TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018

**SUBJECT: BRTT 303 - RECORD KEEPING
(2016 SCHEME)**

Friday, December 07, 2018 (14.00 - 16.00)

Answer ALL questions.

Marks: 50

Duration: 120 mins.

- 1) What are the important personalities in the history of medicine and their contributions? (10)
- 2) Write a short note on indexes used in Medical Records. (10)
- 3A) What are the reasons for analysis of Medical Records? (5)
- 3B) Explain the characteristics of good Medical Records. (5)
- 3C) Write a short note on serial numbering system. (5)
- 3D) Explain flow of IP record through flow chart. (5)
- 4A) Define Numbering System. (2)
- 4B) Define straight numeric filing system. (2)
- 4C) What are the advantages of POMR? (2)
- 4D) What are the types of Medical Record analysis? (2)
- 4E) What are the advantages of Computerized Medical Records? (2)

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Question Paper

Exam Date & Time: 13-Dec-2018 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. MEDICAL RADIOTHERAPY TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2018

**SUBJECT: BRTT 305 - RADIATION SAFETY
(2016 SCHEME)**

Thursday, December 13, 2018 (14.00 - 17.00)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Briefly explain the physical component of Linear accelerator. (20)
- 2) Define half-life and mean life. Derive equation for half-life and relationship between half-life and mean life. (20)
- 3) Write in detail about Personnel monitoring devices. (10)
- 4) Write a note on principles of radiation protection. (10)
- 5A) Write a short note on simulator. (5)
- 5B) Write short note on somatic and hereditary effect. (5)
- 5C) Differentiate about the stochastic and deterministic effects. (5)
- 5D) Mention the role of Technologist in radiotherapy. (5)
- 5E) The exposure rate at 1m from the patient where technologists stands is $1000\mu\text{Gy/hr}$. (5)
What is the exposure rate if the distances are 2m, 3m, 4m?
- 5F) Derive the expression for relation between HVL and TVL. (5)
- 6A) Define Exposure. (2)
- 6B) Define LD 50/60 (2)
- 6C) Define Annual Limit of Intake (2)
- 6D) Define inverse square law (2)
- 6E) Define use factor (2)

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