

Question Paper

Exam Date & Time: 05-Jan-2021 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. RADIOTHERAPY TECHNOLOGY/B.Sc. MEDICAL RADIOTHERAPY TECHNOLOGY DEGREE
EXAMINATION - JANUARY 2021
SUBJECT: BRTT 301/BMRT 301 - PRINCIPLES AND PRACTICE OF RADIOTHERAPY: PART I
(2016 RV/2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1) | i) Define Neoplasia. What do you understand by the development of neoplasia
ii) Add a note on its sign and symptoms in the patient. | (20) |
| 2) | Discuss Patient preparation, simulation and reduplication of treatment. | (20) |
| 3) | Causes of death due to cancer. | (10) |
| 4) | Acute side effects of radiotherapy and prevention of acute side effects. | (10) |
| 5A) | Altered Fractionation Schedules | (5) |
| 5B) | Linear Accelerator | (5) |
| 5C) | 4 R's of radiobiology, discuss any one in detail | (5) |
| 5D) | Cobalt 60 | (5) |
| 5E) | TNM Staging of Cancer | (5) |
| 5F) | Brachytherapy | (5) |
| 6A) | Clinical Symptoms of Cancer | (2) |
| 6B) | Survival in Cancer | (2) |
| 6C) | Physical effects of Chemotherapy | (2) |
| 6D) | Name any TWO late side effects due to radiation therapy | (2) |
| 6E) | radical vs Palliative intent of treatment | (2) |

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Question Paper

Exam Date & Time: 07-Jan-2021 (02:30 PM - 04:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. MEDICAL RADIOTHERAPY TECHNOLOGY / B.Sc.R.T. DEGREE EXAMINATION - JANUARY
2021

SUBJECT: BRTT 303/BMRT 303 - RECORD KEEPING
(2016 RV/2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

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| 1A) | Write a short note on Numbering system used in health care facilities. | (10) |
| 1B) | Write a short note on formats of medical records. | (10) |
| 2A) | Write a short note on Medical record analysis. | (5) |
| 2B) | Write a short on Disease and operation index. | (5) |
| 2C) | What are the rules involved in Form designing? | (5) |
| 2D) | Explain flow of IP record through flow chart. | (5) |
| 3A) | Define medical records | (2) |
| 3B) | What are the advantages of computerized medical records? | (2) |
| 3C) | Define middle digit filing system. | (2) |
| 3D) | Define medico legal register. | (2) |
| 3E) | What are the uses of Physicians Index? | (2) |

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Question Paper

Exam Date & Time: 09-Jan-2021 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIFTH SEMESTER B.Sc. RADIOTHERAPY TECHNOLOGY/B.Sc. MEDICAL RADIOTHERAPY TECHNOLOGY DEGREE
EXAMINATION - JANUARY 2021
SUBJECT: BRTT 305/BMRT 305 - RADIATION SAFETY
(2016 RV/2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

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| 1A) | Explain the system of radiological protection. Mention the recommended dose limits for both occupational workers and public. | (20) |
| 1B) | Discuss the different daily quality assurance tests to be performed for LINAC. | (20) |
| 2A) | Briefly explain the radiation emergencies in radiotherapy facilities. | (10) |
| 2B) | Discuss briefly role of technologist in radiotherapy department. | (10) |
| 3A) | The exposure rate from a Cs-137 source at a point is 100mR/Hr. How much lead should be interposed between the source and the point so that exposure level could be brought down to 0.25mR/Hr at this place? (HVL of Pb = 0.6cm). | (5) |
| 3B) | Write a short note on Thermoluminescent detector. | (5) |
| 3C) | Explain about radiation hazard and control of external hazard. | (5) |
| 3D) | Write a short note on simulators. | (5) |
| 3E) | Write short note on stochastic and deterministic effect. | (5) |
| 3F) | Discuss about the effect of radiation on cell. | (5) |
| 4A) | Define Half Value Layer. | (2) |
| 4B) | What is the difference between chronic exposure and acute exposure? | (2) |
| 4C) | Define inverse square law. | (2) |
| 4D) | Define Absorbed dose. | (2) |
| 4E) | What is the average equivalent dose received per year due to natural background radiation? Whether natural background radiation is included in annual dose limits? | (2) |

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