

# Question Paper

Exam Date & Time: 19-Feb-2020 (02:00 PM - 04:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.O.T./ B.Sc. P.F.T./ BPT/ B.Sc. M.R.T./B.Sc. RADIOTHERAPY TECHNOLOGY/ B.Sc. C.V.T./B.Sc. R.T./  
B.Sc. M.I.T./B.Sc. RRT&DT DEGREE EXAMINATION - FEBRUARY 2020  
SUBJECT : PATH 201/BMRT 207 - PATHOLOGY  
(2016/2016 RV SCHEME)  
PATHOLOGY [PATH 201 - 2016]

Marks: 50

Duration: 120 mins.

A

Answer all the questions.

- 1) Define leukemia. Describe the clinical features, peripheral smear findings and chromosomal abnormality of chronic myeloid leukaemia. (10)  
(2+3+3+2 = 10 marks)
- 2A) Describe the predisposing factors and clinical features of atherosclerosis. (5)  
(3+2 = 5 marks)
- 2B) Define thrombosis. Describe the factors influencing thrombosis. (5)  
(2+3 = 5 marks)

3) Write short notes on:

- 3A) Differences between benign and malignant tumours (5)
- 3B) Fracture healing (5)
- 3C) Cellular events in acute inflammation (5)
- 3D) Pneumonia (5)

4) Answer the following questions:

- 4A) List the clinical features of an X-linked recessive disorder. (2)
- 4B) Enumerate the characteristic features of nephrotic syndrome. (2)
- 4C) List the types of jaundice with an example of each. (2)
- 4D) List the types of tuberculosis. (2)
- 4E) Name four reversible cellular adaptations with an example of each. (2)

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# Question Paper

Exam Date & Time: 21-Feb-2020 (02:00 PM - 05:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. RADIOTHERAPY TECHNOLOGY DEGREE EXAMINATION - FEBRUARY 2020  
SUBJECT: BRTT 201 - RADIOTHERAPY EQUIPMENTS  
(2016 RV SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) How X-rays are generated? Discuss in detail about the physics of X-rays. (20)
- 2) Briefly explain the construction and working of the medical linear accelerator. (20)
- 3) With the neat labelled diagram explain the construction and working of microtron. (10)
- 4) **Write a short note on:** (10)  
(i) Wedge (ii) Penumbra
- 5A) Briefly explain the working of cyclotron. (5)
- 5B) Mention the various sources used in brachytherapy. What are the different techniques in brachytherapy? (5)
- 5C) Write a short note on CT simulator. (5)
- 5D) Mention the different beam shaping devices and explain any two. (5)
- 5E) Write a short note on motorised and physical wedge. (5)
- 5F) Briefly explain the concept of physical and geometric penumbra. (5)
- 6A) What is tube and filament current? (2)
- 6B) Mention at what voltage superficial and orthovoltage therapy work. (2)
- 6C) Define point A and explain its clinical significance. (2)
- 6D) Mention different types of wedges. (2)
- 6E) What is filtration? (2)

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