

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: 20-Feb-2020 (02:00 PM - 04:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.O.T./BPT/ B.Sc. C.V.T./B.Sc. R.T./ B.Sc. M.I.T./B.Sc. RRT&DT DEGREE EXAMINATION -
FEBRUARY 2020
SUBJECT : MICR 201 - MICROBIOLOGY
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Explain the mechanisms of autoimmunity. List two diseases each involving single and multiple organ or system. (10)
(6+4 = 10 marks)
- 2) Explain the etio-pathogenesis and laboratory diagnosis of clostridial myonecrosis. (10)
(1+4+5 = 10 marks)

3) Write short notes on:

- 3A) Laboratory diagnosis of HIV infection (5)
- 3B) Investigation of hospital acquired infections (5)
- 3C) Pathogenesis of influenza virus (5)
- 3D) Laboratory diagnosis of enteric fever (5)

4) Answer the following questions:

- 4A) Prevention of tetanus (2)
- 4B) Laboratory diagnosis of acute rheumatic fever (2)
- 4C) Functions of IgA antibody (2)
- 4D) Classification of sterilization methods (2)
- 4E) Transmission of viral hepatitis (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 BPT DEGREE EXAMINATION - FEBRUARY 2020
SUBJECT: BPT 201 - BIOMECHANICS
(2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the kinematics of Tibiofemoral joint. Discuss the role of Patella in extensor mechanism of knee joint. Mention the static and dynamic stabilizers of patella. (20)
(6+10+4 = 20 marks)
- 2) Discuss the Running Gait, Compare the running gait cycle with walking gait cycle. Add a note on gait variables. (20)
(5+10+5 = 20 marks)
- 3) Explain the factors affecting stability of Hip joint. Discuss the different methods to reduce the joint reaction force. (10)
(5+5 = 10 marks)
- 4) Explain the phases of shoulder abduction, discuss muscle function and stability during shoulder abduction. (10)

5. Short answers:

- 5A) Describe the kinematics of carpal bones during wrist flexion. (5)
- 5B) Describe the flexion mechanism of finger. (5)
- 5C) Explain the role of diaphragm in stability of spine. (5)
- 5D) Explain the postural deviations of the spine. (5)
- 5E) Explain role of biceps in stability of shoulder and elbow joint. (5)
- 5F) Describe the kinematics of Talocrural joint. (5)

6. Brief answers:

- 6A) What is lumbosacral angle? (2)
- 6B) Describe gait deviation due to bilateral Hip extensor weakness. (2)
- 6C) Mention Functions of anterior cruciate ligament of the knee joint. (2)
- 6D) What is angle of inclination, mention normal values? (2)
- 6E) Describe thumb opposition. (2)

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Question Paper

Exam Date & Time: 22-Feb-2020 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - FEBRUARY 2020
SUBJECT: BPT 203 - EXERCISE THERAPY - I
(2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Define joint mobilization. Mention the grades of Kaltenborn's mobilization technique. Explain the step by step procedure of joint mobilization for improving range of shoulder abduction and extension. (20)
(2+6+12 = 20 marks)
- 2) Explain the modes of strength training. Describe the rationale for gadget selection and progression planning with appropriate examples. (20)
(10+10 = 20 marks)
- 3) Explain the various types of stretching. Add a note on adjunct modalities used in stretching. (10)
(8+2 = 10 marks)
- 4) Explain in detail the Medical Research Council grading system for assessment of muscle strength. Add a note on limitations of Manual Muscle Testing. (10)
(8+2 = 10 marks)

5) Short Answers:

- 5A) Discuss precautions and contraindications for resistance training. (5)
- 5B) What are trick movements? Write a note on types of trick movements. (5)
- 5C) Explain treatment plane with the help of a diagram. (5)
- 5D) Discuss the principles of stretching. (5)
- 5E) Discuss active and passive insufficiency with examples. (5)
- 5F) Explain the effects and uses of spinal traction. (5)

6) Brief Answers:

- 6A) What is Concave Convex Rule? (2)
- 6B) Define 'Sarcomere- give'. (2)
- 6C) Define 1 RM. (2)
- 6D) List the contraindications for spinal traction. (2)
- 6E) What is Valsalva Manoeuvre? (2)

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Question Paper

Exam Date & Time: 24-Feb-2020 (02:00 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT DEGREE EXAMINATION - FEBRUARY 2020
SUBJECT: BPT 205 - ELECTROTHERAPY - II
(2016 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain the condenser field method and its application in short wave diathermy with diagrams. (20)
Discuss the physiological effects of shortwave diathermy.
(10+10 = 20 marks)
- 2) Discuss the methods of application of ultrasound with suitable examples for each method. Discuss the dosage of ultrasound. Add a note on the dangers of ultrasound. (20)
(9+8+3 = 20 marks)
- 3) Discuss the physiological effects of UVR. Explain the procedure for calculating test dose in UVR. (10)
(6+4 = 10 marks)
- 4) Define medical ionisation. Explain in detail the technique of medical ionisation. Add a note on the uses of any two negatively charged ions. (10)
(2+4+4 = 10 marks)

5) Short Notes:

- 5A) Explain the polar effects of constant direct current. (5)
- 5B) Discuss the electrostatic and magnetic disturbances of high frequency currents in detail. (5)
- 5C) Discuss the physiological effects and therapeutic effects of Pulsed SWD. (5)
- 5D) Discuss the contraindications of ultrasound. (5)
- 5E) Discuss the precautions during the application of IRR. (5)
- 5F) Define extra corporeal shock wave therapy. Describe the mechanism of action. (5)

6) Brief Notes:

- 6A) Define Cataphoresis. (2)
- 6B) What is half value depth? (2)
- 6C) Enlist the types of LASER. (2)
- 6D) Mention any two indications for electromyography. (2)
- 6E) Mention the effects and uses of combination therapy. (2)

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