

Question Paper

Exam Date & Time: 18-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT / BOT / B.Sc. RRT &DT / BAOTT / BSc. RT / BSc. PFT / BSc. MIT / BSc. CVT DEGREE
EXAMINATION - APRIL 2022
SUBJECT: MICR 201 - MICROBIOLOGY
(2016 / 2019 SCHEME)

Marks: 50

Duration: 120 mins.

- 1) Explain the pathogenesis and laboratory diagnosis of enteric fever. (10)
(4+6 = 10 marks)
- 2) Classify sterilization. Explain the working principle and articles sterilized using autoclave. (10)
(4+4+2 = 10 marks)

3. Write short notes on:

- 3A) Components of innate immunity. (5)
- 3B) Pathogenesis of influenza virus. (5)
- 3C) Bacterial cell wall. (5)
- 3D) Laboratory diagnosis of HIV infections. (5)

4. Answer the following:

- 4A) Name TWO parasites causing intestinal infections. (2)
- 4B) Mention TWO bacterial culture methods. (2)
- 4C) List Any TWO bacteria causing meningitis. (2)
- 4D) Name TWO functions of IgM antibody. (2)
- 4E) Classify bacteria based on morphology. (2)

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Question Paper

Exam Date & Time: 19-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: BCVT 203 - ULTRASOUND PHYSICS AND DOPPLER PRINCIPLES
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

Draw the diagram wherever necessary.

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| 1) | Explain the basic principle and physical properties of medical diagnostic ultrasound. | (10) |
| 2) | Describe Doppler principles and define various types of Doppler formats used in diagnostic ultrasound. | (10) |
| 3A) | Write the normal and abnormal M-mode pattern of mitral valve. | (5) |
| 3B) | Explain PISA method. | (5) |
| 3C) | Describe the implication and limitations of pressure half time. | (5) |
| 3D) | Explain the components of ultrasound transducer with a diagram. | (5) |
| 4A) | What is first harmonic imaging? | (2) |
| 4B) | List any two limitations of pulsed wave Doppler. | (2) |
| 4C) | Define spectral analysis. | (2) |
| 4D) | Enumerate the limitations of pressure half time measurement. | (2) |
| 4E) | Define the assumptions when using PISA method. | (2) |

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Question Paper

Exam Date & Time: 20-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT / BOT / BSc. MIT / BRTT / BSc. RRT & DT / BAOTT / BSc. RT / BSc. PFT / BSc. CVT DEGREE
EXAMINATION - APRIL 2022
SUBJECT: PATH 201 - PATHOLOGY
(2016 /2016 RV/ 2019 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1A) Define and classify hypertension. Describe the effects of hypertension on various organs. (5)
(2+3 = 5 marks)
- 1B) Describe the causes and clinical features of cardiac failure. (5)
- 2A) Define anaemia. Describe the aetiology and clinical features of megaloblastic anaemia. (5)
(1+4 = 5 marks)
- 2B) Describe the clinical features, blood picture and chromosomal abnormality of chronic myeloid leukaemia. (5)
(2+2+1 = 5 marks)

3. Write short notes on:

- 3A) Fracture healing. (5)
- 3B) Cerebrovascular disease. (5)
- 3C) Differences between benign and malignant tumours with examples. (5)
- 3D) Bronchial asthma. (5)

4. List the following:

- 4A) Cellular events of acute inflammation. (2)
- 4B) The fate of a thrombus. (2)
- 4C) The types of necrosis. (2)
- 4D) Any two types of jaundice with examples. (2)
- 4E) Two examples each of nephritic and nephrotic syndrome. (2)

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Question Paper

Exam Date & Time: 21-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - APRIL 2022
SUBJECT: BCVT 205 - CARDIAC STRESS TESTS
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Explain the subject preparation, contraindications & indications for termination of Tread Mill testing. (10)
- 2) Describe normal & abnormal electrocardiographic responses during Exercise stress testing. (10)
- 3A) Write a short note on Single photon emission computed tomography. (5)
- 3B) Discuss the use of ACE inhibitors and vasodilators in exercise stress test. (5)
- 3C) Describe cardiopulmonary response to exercise. (5)
- 3D) Mention the potential complications of exercise stress testing. (5)
- 4A) List two contraindications of atropine test. (2)
- 4B) Define Duke Treadmill scoring. (2)
- 4C) Write the use of aminophylline in dipyridamole stress test. (2)
- 4D) Draw the bull's eye representation used to diagnose underlined coronary artery disease. (2)
- 4E) Define Myocardial Hibernation. (2)

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