

# Question Paper

Exam Date & Time: 10-Dec-2021 (02:30 PM - 04:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BPT / BOT / B.Sc. CVT / B.Sc. RRT & DT / B.Sc. BAOTT / B.Sc. RT / B.Sc. PFT / B.Sc. MIT DEGREE  
EXAMINATION - DECEMBER 2021  
SUBJECT: MICR 201 - MICROBIOLOGY  
(2016/2019 SCHEME)

Marks: 50

Duration: 120 mins.

### Answer all the questions.

- 1) Define and classify sterilization. Explain in detail on autoclave. (10)  
(1+2+7 = 10 marks)
- 2) Describe the pathogenesis of poliomyelitis. Explain the prophylactic measures employed for this infection. (10)  
(5+5 = 10 marks)

### 3. Write short notes on:

- 3A) Contributions of Louis Pasteur. (5)
- 3B) Anaphylaxis. (5)
- 3C) Laboratory diagnosis of enteric fever. (5)
- 3D) Morphological classification of fungi. (5)

### 4. Answer the following:

- 4A) Name TWO bacteria causing acute meningitis. (2)
- 4B) Mention the causative agent of tetanus and its prevention. (2)
- 4C) Write TWO modes of transmission of infection. (2)
- 4D) Name TWO bacteria causing skin infection. (2)
- 4E) Write TWO organisms causing sexually transmitted diseases. (2)

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# Question Paper

Exam Date & Time: 13-Dec-2021 (02:30 PM - 04:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. MIT / B.Sc. RTT / B.Sc. EMT / B.Sc. RRT & DT / B.Sc. AOTT / B.Sc. RT / B.Sc. PFT / BOT / BPT /  
B.Sc. CVT DEGREE EXAMINATION - DECEMBER 2021  
SUBJECT: PATH 201 - PATHOLOGY  
(2016 / 2016 RV / 2019 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Define inflammation. Mention types of inflammation with examples. Describe the cellular events of inflammation. (10)  
(1+3+6 = 10 marks)
- 2) Classify anaemia. List four clinical features of anaemia. Describe the laboratory findings in megaloblastic anaemia. (10)  
(3+2+5 = 10 marks)
- 3A) Write a note on steps of fracture healing. (5)
- 3B) What are the modes of transmission of HIV/AIDS? List the opportunistic infections in HIV/AIDS. (5)  
(2+3 = 5 marks)
- 3C) Illustrate the mechanism of metastasis with a flowchart. (5)
- 3D) Describe the types and causes of emphysema. (5)  
(3+2 = 5 marks)
- 4A) Define metaplasia. Give an example. (2)
- 4B) List the differences between dry gangrene and wet gangrene. (2)
- 4C) List the complications of acute myocardial infarction. (2)
- 4D) Mention the etiology of peptic ulcer. (2)
- 4E) Mention the complications of diabetes mellitus. (2)

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# Question Paper

Exam Date & Time: 15-Dec-2021 (02:30 PM - 04:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2021  
SUBJECT: BCVT 203 - ULTRASOUND PHYSICS AND DOPPLER PRINCIPLES  
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Describe the standard echocardiographic views used to examine the cardiovascular diseases with the help of diagram. (10)
- 2) Explain the principles of pulsed wave Doppler in echocardiography with advantages. (10)
- 3A) Discuss the biological effects of ultrasound. (5)
- 3B) Enumerate the differences between 2D echo imaging and Doppler echocardiography. (5)
- 3C) Explain the ultrasound and tissue interaction. (5)
- 3D) Discuss tissue Doppler imaging. (5)
- 4A) Define Coanda effect. (2)
- 4B) What is ghosting and reverberation? (2)
- 4C) Define spatial resolution. (2)
- 4D) Write any two limitations of continuity equation. (2)
- 4E) What is refraction and scattering? (2)

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# Question Paper

Exam Date & Time: 22-Dec-2021 (02:30 PM - 04:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY DEGREE EXAMINATION - DECEMBER 2021  
SUBJECT: BCVT 205 - CARDIAC STRESS TESTS  
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- |     |   |      |
|-----|---|------|
| 1)  | Explain the various protocol used in SPECT scan.                  | (10) |
| 2)  | Discuss coronary indications of treadmill test.                   | (10) |
| 3A) | Describe four responses of dobutamine stress test.                | (5)  |
| 3B) | Explain advantages of PET scan over SPECT scan.                   | (5)  |
| 3C) | Describe the normal ECG responses observed during treadmill test. | (5)  |
| 3D) | Explain the perfusion tracers used in PET scan.                   | (5)  |
| 4A) | What is silent ischemia?  | (2)  |
| 4B) | Define rate pressure product.                                     | (2)  |
| 4C) | List two uses of beta blockers.                                   | (2)  |
| 4D) | Define myocardial stunning and hibernation.                       | (2)  |
| 4E) | What are the determinants of myocardial oxygen uptake?            | (2)  |

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