

# Question Paper

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



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BSc. PFT / BSc. RRT & DT / BSc. AOTT / BSc. CVT / BSc. EMT / BSc. CND / BSc. RT DEGREE  
EXAMINATION - DECEMBER 2021  
SUBJECT: MCB2103 - MICROBIOLOGY  
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

### Answer all the questions.

- 1) Draw and label bacterial cell structure. Explain the differences between gram positive and gram negative bacterial cell walls. (10)  
(4+6 = 10 marks)
- 2) Explain the pathogenesis and laboratory diagnosis of cholera. (10)  
(5+5 = 10 marks)

### 3. Write short notes on:

- 3A) Bacterial growth curve. (5)
- 3B) Mechanism of type 1V hypersensitivity reaction. (5)
- 3C) Pathogenesis of HIV infection. (5)
- 3D) Laboratory diagnosis of pulmonary tuberculosis. (5)

### 4. Answer the following:

- 4A) Classification of immunity. (2)
- 4B) Morphological forms of Entamoeba histolytica. (2)
- 4C) List FOUR predisposing factors of UTI. (2)
- 4D) List FOUR virulence factors of Streptococcus pyogenes. (2)
- 4E) Immunoprophylaxis of poliomyelitis. (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 BOT / BPT / BSc. MIT / BSc. RRT & DT / BAOTT / BSc. PFT / BSc. CVT / BSc. EMT / BSc. RT / B.Sc.  
RTT DEGREE EXAMINATION - DECEMBER 2021  
SUBJECT: PAT 2103 - PATHOLOGY  
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

**Answer all the questions.**

**Draw diagrams wherever necessary.**

- |     |   |     |
|-----|---|-----|
| 1A) | Describe the events in wound healing by primary intention with diagrams.  | (6) |
| 1B) | Explain the factors that influence wound healing.   | (4) |
| 2A) | Define anemia. Classify anemia based on etiology.<br>(1+2 = 3 marks)  | (3) |
| 2B) | Describe clinical features, etiology and basic laboratory investigations for iron deficiency anemia.<br>(2+2+3 = 7 marks) | (7) |
| 3A) | Describe four cardinal signs and list two causes of acute inflammation.   | (5) |
| 3B) | Mention five differences between benign and malignant tumors.   | (5) |
| 3C) | Describe the morphology of primary, secondary and miliary tuberculosis.   | (5) |
| 3D) | Describe the pathogenesis and list two causes of hypovolemic shock.   | (5) |
| 4A) | Define metaplasia. Give an example.   | (2) |
| 4B) | List four causes of thrombocytopenia.   | (2) |
| 4C) | Define aneurysm and mention the types of aneurysm.  | (2) |
| 4D) | Mention any four clinical features of hyperthyroidism.  | (2) |
| 4E) | List the modes of transmission of Hepatitis B.  | (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. RESPIRATORY THERAPY DEGREE EXAMINATION - DECEMBER 2021  
SUBJECT: RES2101 - PULMONARY DIAGNOSTICS - II  
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Explain the insertion site and procedure for insertion of an arterial line. List any two indications and complications of arterial pressure monitoring. (10)  
(6+4 = 10 marks)
- 2) Explain the chest X-ray features seen in Surgical emphysema and pleural effusion. (10)  
(5+5 = 10 marks)
- 3A) Explain the abnormal findings of Pneumonectomy on a chest X-ray. (5)
- 3B) Explain the chest X-ray features of Left ventricular failure. (5)
- 3C) Explain the relationship between pulmonary artery diastolic pressure and pulmonary artery wedge pressure (PAWP). (5)
- 3D) Explain the abnormal findings of Bronchiectasis on a CT scan and chest X-ray. (5)
- 4A) List the abnormal finding with the trachea in Pneumothorax and Atelectasis on a chest X-ray. (2)
- 4B) Define Antero-posterior (AP) view of a chest X-ray. (2)
- 4C) List the chest X-ray features of the Pancoast's tumour. (2)
- 4D) List two indications for placing a CVP catheter. (2)
- 4E) List the abnormal findings of Atrial Septal Defect on a chest X-ray. (2)

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# Question Paper

Exam Date & Time: 17-Dec-2021 (02:30 PM - 04:30 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - DECEMBER 2021  
SUBJECT: RES 2103 - PULMONARY DISEASES  
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Define Pneumonia. List the etiological factors for Hospital Acquired Pneumonia. Outline the pharmacological and non-pharmacological treatment for pneumonia. (10)  
(2+2+6 = 10 marks)
- 2) List the different types of pneumothorax. Explain the diagnostic methods to identify pneumothorax. (10)  
(5+5 = 10 marks)
- 3A) Define Acute Respiratory Distress Syndrome (ARDS) (5)
- 3B) List the different types and clinical features of bronchiectasis. (5)
- 3C) Explain the pathophysiology of pulmonary embolism. (5)
- 3D) Describe the diagnostic methods of tuberculosis. (5)
- 4A) List any four clinical features of smoke inhalation injury. (2)
- 4B) Mention any four etiological factors of asthma (2)
- 4C) Define Type II Respiratory Failure (2)
- 4D) List any four clinical features of myasthenia gravis (2)
- 4E) List any four risk factors of drowning (2)

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# Question Paper

Exam Date & Time: 20-Dec-2021 (10:00 AM - 01:00 PM)



## MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - DECEMBER 2021  
SUBJECT: RES 2102 - PEDIATRIC RESPIRATORY CARE  
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) Explain in detail about the fetal circulation. Outline the transition from fetal to neonatal circulation. (20)  
(10+10 = 20 marks)
- 2) List out the variable and fixed performance oxygen delivery systems. Explain about partial rebreathing mask and non- rebreathing mask with a neat-labelled diagram. (20)  
(10+10 = 20 marks)
- 3) Explain the normal capnographic waveform with a diagram. List out any five abnormal capnographic waveforms. (10)  
(5+5 =10 marks)
- 4) Describe the pathophysiology of Asthma. Explain the management strategy of Asthma. (10)  
(5+5 = 10 marks)
- 5A) Outline the monitoring of patient during flexible bronchoscopy (5)
- 5B) Explain about the diagnostic techniques used in cystic fibrosis (5)
- 5C) Describe the mechanism of action of mucolytic agents (5)
- 5D) Explain the spectrum of thoracic injuries in children (5)
- 5E) Explain the principles of incentive spirometry and list four complications (5)
- 5F) Describe the factors affecting aerosol delivery (5)
- 6A) List four complications of arterial blood gas sampling (2)
- 6B) Name two common pathologies visualized in soft tissue images of the neck radiography. (2)
- 6C) List out any two complications of Intubation. (2)
- 6D) What are the components of APGAR score. (2)
- 6E) List out any two clinical signs of pneumothorax in neonates (2)

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