

Question Paper

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



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BSc. CND / BSc. PFT / BSc. RRT & DT / BSc. AOTT / BSc. CVT / BSc. EMT / BSc. RT DEGREE
EXAMINATION - APRIL 2022
SUBJECT: MCB2103 - MICROBIOLOGY
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Classify the methods of sterilization. Explain the moist heat sterilization method employing heat above 100°C. Give examples of three articles sterilized using this instrument. (10)
(2+5+3 = 10 marks)
- 2) Explain the pathogenesis and laboratory diagnosis of pneumonia caused by Streptococcus pneumoniae. Add a note on preventive measures (10)
(4+5+1 = 10 marks)

3. Write short notes on:

- 3A) Pathogenesis of cholera (5)
- 3B) Mechanism of type I hypersensitivity reaction (5)
- 3C) Differences between primary and secondary immune response (5)
- 3D) Etiopathogenesis of poliomyelitis (5)

4. Answer the following:

- 4A) Name any TWO fungi causing infections in humans (2)
- 4B) Write TWO causative agents of bacterial meningitis (2)
- 4C) List FOUR seromarkers of acute hepatitis B viral infection (2)
- 4D) Write FOUR virulence factors of Staphylococcus aureus (2)
- 4E) Name TWO etiological agents causing urinary tract infections (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: 20-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER BOT / BPT / BSc. MIT / BSc. RRT & DT / BAOTT / BSc. PFT / BSc. CVT / BSc. EMT / BSc. RT
DEGREE EXAMINATION - APRIL 2022
SUBJECT: PAT 2103 - PATHOLOGY
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

Draw diagrams wherever necessary.

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| 1A) | Define shock. List the types of shock.
(2+2 = 4 marks) | (4) |
| 1B) | Describe the pathogenesis of shock caused by bacterial infection. | (6) |
| 2A) | Define fracture. | (2) |
| 2B) | Describe the process of fracture healing. List the factors influencing fracture repair.
(5+3 = 8 marks) | (8) |
| 3A) | List two causes and describe morphology of a granuloma with a diagram. | (5) |
| 3B) | Describe the basic laboratory investigations and clinical features of hemophilia. | (5) |
| 3C) | Describe the predisposing factors and complications of atherosclerosis. | (5) |
| 3D) | Describe etiology and clinical features of bronchiectasis. | (5) |
| 4A) | Define atrophy and give two examples. | (2) |
| 4B) | Define inflammation. Give an example each for acute and chronic inflammation. | (2) |
| 4C) | Define neoplasia. Give two examples of benign tumors. | (2) |
| 4D) | Mention the etiology and mode of transmission of tuberculosis. | (2) |
| 4E) | Define karyotyping. Name one syndrome due to chromosomal abnormality. | (2) |

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Question Paper

Exam Date & Time: 22-Apr-2022 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - APRIL 2022
SUBJECT: RES 2103 - PULMONARY DISEASES
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Define chronic obstructive pulmonary disease (COPD). List the etiology of COPD. Explain the treatment strategy for acute exacerbation of COPD. (10)
(3+2+5 = 10 marks)
- 2) Name the causative organism of tuberculosis. Describe the pathophysiology of tuberculosis. Briefly explain the pharmacological treatment regimen of tuberculosis. (10)
(1+4+5 = 10 mark)
- 3A) Explain the different diagnostic tests for asthma . (5)
- 3B) Define pulmonary edema. List any three clinical feature of pulmonary edema. (5)
- 3C) Explain the treatment strategy of pneumothorax. (5)
- 3D) Explain the management of myasthenia gravis. (5)
- 4A) List any two types of atelectasis. (2)
- 4B) List any three clinical features of bronchiectasis. (2)
- 4C) List any four causative organism of pneumonia. (2)
- 4D) Define Type I Respiratory Failure (2)
- 4E) Define obstructive sleep apnea (2)

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Question Paper

Exam Date & Time: 21-Apr-2022 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - APRIL 2022
SUBJECT: RES 2102 - PEDIATRIC RESPIRATORY CARE
(2020 SCHEME)

Answer ALL questions.

Marks: 100

Duration: 180 mins.

- 1A) Explain normal capnographic waveform with a neat labelled diagram. List out five abnormal capnographic waveforms. (10)
(5 + 5 = 10 marks)
- 1B) Explain the importance of proper application and site selection for transcutaneous monitoring. (5)
- 1C) Describe the principles of pulse oxymetry (5)
- 2A) List out the four indications for endotracheal intubation. Add a note on how to perform orotracheal intubation. (10)
(2+8 = 10 marks)
- 2B) List out the indications and major complications of tracheostomy. List out the criteria for decannulation (10)
(2+2+6 = 10 marks)
- 3) Outline how atelectasis affects the individual lobes of each lung. Describe the radiographic appearance of cystic fibrosis (10)
(5+5 = 10 marks)
- 4) Explain the pathophysiology of ARDS. Explain the clinical approach to the management of patients with ARDS. (10)
(5+5 = 10 marks)
- 5A) Explain the key steps of pseudoglandular stage (5)
- 5B) Describe the monitoring of patient during a flexible bronchoscopy & list out the complications during and after the procedure (5)
- 5C) Explain any two technique used for airway clearance in children (5)
- 5D) Outline the steps for emergency management of an infant diagnosed with congenital diaphragm hernia immediately after birth (5)
- 5E) Explain the management of pneumothorax (5)
- 5F) Describe the procedure for broncho provocation test (5)
- 6A) Name three anatomical shunts in fetal circulation (2)
- 6B) List four signs and symptoms of respiratory distress in infants (2)
- 6C) List the factors that affects oxygen dissociation curve (2)
- 6D) What are the two potential side effects of inhaled nitric oxide therapy? (2)
- 6E) List out the four complications of oxygen therapy (2)

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