

Question Paper

Exam Date & Time: 05-Jun-2024 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: BRES 204 - RESPIRATORY CARE PHARMACOLOGY
(2016 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Define anticholinergic agents. Explain the mechanism of action and list the indications and adverse effects for the same. (10)
(1+4+2.5 +2.5 = 10 marks)
- 2) With neat, labeled diagram explain the cholinergic neurotransmitter function. (10)
- 3A) List and explain the most important factors affecting neonatal and pediatric aerosol drug delivery. (5)
(2+3 = 5 marks)
- 3B) Write the indication for the use of N-Acetyl L-Cysteine (mucomyst). Explain the mode of action. (5)
- 3C) Define xanthine. Explain the clinical indications of xanthine's. (5)
(2+3 = 5 marks)
- 3D) Explain the differences between the common cold and the flu. (5)
- 4A) List any two available exogenous surfactant agents used in respiratory management. (2)
- 4B) List the indications for use of nonsteroidal antiasthma agents. (2)
- 4C) Outline the use of corticosteroids in the treatment of asthma. (2)
- 4D) List the indication for nitric oxide. (2)
- 4E) List any two calcium channel blockers. (2)

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Question Paper

Exam Date & Time: 05-Jun-2024 (10:00 AM - 01:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: RES2202 - RESPIRATORY CARE PHARMACOLOGY
(2020 SCHEME)

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) List any 4 inhaled corticosteroids and their indications. Explain its mode of action and identify adverse effects of corticosteroids. (20)
(4+2+9+5 = 20 marks)
- 2) Write a note on the categories of the Vaughan Williams classification system used in the treatment of arrhythmias. Explain the mechanism of action of digoxin. Explain the proper dosing technique of intravenous magnesium therapy in the management of torsade's de pointes. (20)
(10+5+5 = 20 marks)
- 3) Define pharmacokinetic phase and explain the key factors. (10)
(2+8 = 10 marks)
- 4) Explain the use of nonsteroidal antiasthma agents in the treatment of asthma. (10)
- 5A) Explain any three differences between sympathetic and parasympathetic branches of the nervous system. (5)
- 5B) Explain the interaction between airway clearance devices and mucoactive agents (5)
- 5C) List and explain the uses of xanthines. (5)
- 5D) Define hypertensive crisis and differentiate between hypertensive emergency and hypertensive urgency. (5)
- 5E) List any three advantages and disadvantages of nicotine replacement (5)
- 5F) Explain the mode of action of extrinsic surfactant. (5)
- 6A) Explain the L/T ratio. (2)
- 6B) List the various groups of diuretics. (2)
- 6C) List the various classes of penicillin. (2)
- 6D) Identify the methods of monitoring neuromuscular blockade. (2)
- 6E) List the various sources used to manufacture drugs. (2)

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Question Paper

Exam Date & Time: 01-Jun-2024 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: RES2241 - PROGRAM ELECTIVE - I : SEMINARS IN RESPIRATORY CARE
(2020 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

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| 1) | Define asthma and elaborate on its pathophysiology and management.
(2+3+5 = 10 marks) | (10) |
| 2) | With the help of a diagram, name the parts of the endotracheal tube and explain the procedure of endotracheal intubation.
(2+2+6 = 10 marks) | (10) |
| 3A) | Explain the development of the respiratory system. | (5) |
| 3B) | Explain the mechanics of exhalation. | (5) |
| 3C) | Outline the procedure of arterial blood gas sampling. | (5) |
| 3D) | Summarize the management of chest trauma. | (5) |
| 4A) | List the ventilator parameters that optimize ventilation. | (2) |
| 4B) | List the contraindications of supraglottic airway devices. | (2) |
| 4C) | Enlist the indications for tracheostomy. | (2) |
| 4D) | Enlist the clinical presentation of pneumothorax. | (2) |
| 4E) | Enlist the risk factors for pulmonary embolism. | (2) |

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Question Paper

Exam Date & Time: 30-May-2024 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

SIXTH SEMESTER BPT/BOT/B.Sc. (ESS/ RRT & DT / RT / MIT) / FOURTH SEMESTER B.Sc. (PFT / CVT / CND / MLT / HIM / BOPT / BAOTT / RT / EMT / PHYSICIAN ASSISTANT / PSYCHOLOGY / NMT) / EIGHT SEMESTER (BPT / BOT) / SECOND SEMESTER BASLP DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: BST3201 / STAT 402 / BST 3202 - BIOSTATISTICS AND RESEARCH METHODOLOGY / BIOSTATISTICS / BASIC BIOSTATISTICS AND RESEARCH METHODOLOGY
(2016/2020/2022 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

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| 1A) | Elaborate graphical representation with examples. | (5) |
| 1B) | Explain the properties of normal distribution with diagram. | (5) |
| 2A) | Describe different types of clinical study designs. | (5) |
| 2B) | Write short notes on non-probability sampling. | (5) |
| 3A) | The triglycerides (serum) (in mg/dL) of 10 patients were as follows:
155, 150, 106, 89, 63, 68, 144, 125, 130, 74
Calculate mean, and standard for the above data. | (5) |
| 3B) | Define the following: (i) Incidence rate (ii) prevalence rate. | (5) |
| 3C) | Discuss about regression analysis and its two equations. | (5) |
| 3D) | Write short notes on research process. | (5) |
| 4A) | Define skewness. | (2) |
| 4B) | The following are the weights for 10 patients. Calculate range and mode 60, 54, 74, 82, 59, 63, 72, 89, 58, 85. | (2) |
| 4C) | What is meant by systematic sampling? | (2) |
| 4D) | Define scatter plot. | (2) |
| 4E) | Define case report. | (2) |

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