Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY/B.Sc. EMERGENCY MEDICAL TECHNOLOGY/B.Sc. CLINICAL NUTRITION & DIETETICS/B.Sc. PSYCHOLOGY/B.Sc. NUCLEAR MEDICINE TECHNOLOGY/B.Sc.HEALTH INFORMATION MANAGEMENT/B.Sc. MEDICAL LABORATORY TECHNOLOGY/B.Sc. ANAESTHESIA & OPERATION THEATRE TECHNOLOGY/B.Sc. PERFUSION TECHNOLOGY/B.Sc. RESPIRATORY THERAPY/BACHELOR OF OPTOMETRY DEGREE EXAMINATION - MAY 2022
SUBJECT: BST 3201/BST 3202 - BIOSTATISTICS AND RESEARCH METHODOLOGY
(2020 SCHEME)

Marks: 50   **Duration: 120 mins.**

Answer all the questions.

1)	Compute the median, inter-quartile range, range and mode for the following data. (2+4+2+2 = 10 marks)	(10)

Systolic Blood Pressure
141
119
122
127
125
122
105
113
106
131

2A)	State the assumptions of simple linear regression	(5)
2B)	Define skewness and kurtosis.	(2)
2C)	Define the three components of descriptive epidemiology.	(3)
3A)	Write a short note on commonly used methods to summarize qualitative and quantitative variables.	(5)
3B)	If the underlying characteristic of interest is continuous and the underlying probability distribution is Gaussian, then, _____ % of the observations will lie within one standard deviation from the mean, _____ % of the observations will lie within two standard deviations from the mean, and _____ % of the observations will lie within three standard deviations from the mean. Define sampling and a sampling frame (3+2 = 5 marks)	(5)
3C)	Define dependent and independent variables with an example. Define the three types of tabulation. (2+3 = 5 marks)	(5)

3D)	Write a short note on systematic and snowball sampling.	(5)
4A)	Give two examples of a continuous variable.	(2)
4B)	Define demography and epidemiology.	(2)
4C)	Probability values range between the values _____ and _____ whereas Pearson's Correlation coefficient values range between _____ and _____.	(2)
4D)	List any two examples of non-sampling error.	(2)
4E)	List a point of difference between morbidity rate and mortality rate with an example.	(2)

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Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. HIM/B.Sc. AOTT/B.Sc. EMT/B.Sc. MIT/B.Sc. RRT & DT/B.Sc. RT DEGREE EXAMINATION - MAY 2022
SUBJECT : GPY2201 - GENERAL PSYCHOLOGY
(2020 SCHEME)

Marks: 50   **Duration: 120 mins.**

Answer all the questions.

1)	Explain the trait approach to personality	(10)
2)	Summarise the different theories of forgetting	(10)
3A)	Perceptual constancy	(5)
3B)	Emotional intelligence	(5)
3C)	Applications of Operant conditioning	(5)
3D)	Any two theories of emotion	(5)
4A)	Define Psychology	(2)
4B)	Incentive theory	(2)
4C)	Pragnanz	(2)
4D)	Sensory memory	(2)
4E)	Thinking	(2)

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Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B. Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: RES2241 - PROGRAM ELECTIVE-I - SEMINARS IN RESPIRATORY CARE
(2020 SCHEME)

Marks: 50   **Duration: 120 mins.**

Answer all the questions.

1)	Explain the quality assessment and sequential approach of reading a chest X-Ray.	(10)
2)	Explain the procedure of extubation. Write any four post extubation airway complications. (6+4 = 10 marks)	(10)
3A)	Write the indications for ABG. Write a note on modified Allen's test.	(5)
3B)	Write the indications and contraindications of pulmonary function testing.	(5)
3C)	Write the tube selection and insertion technique for nasopharyngeal airway.	(5)
3D)	Explain the diagnosis of tension pneumothorax.	(5)
4A)	Define and write the normal value of cardiac output.	(2)
4B)	Write the alveolar gas equation. Write the normal PAO_2 value.	(2)
4C)	Write the formula and normal value of oxygen delivery.	(2)
4D)	Write the parts of LMA.	(2)
4E)	Write four steps to prevent ventilator associated pneumonia.	(2)

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Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. RESPIRATORY THERAPY DEGREE EXAMINATION - MAY/JUNE 2022
SUBJECT: RES2202 - RESPIRATORY CARE PHARMACOLOGY
(2020 SCHEME)

Marks: 100   **Duration: 180 mins.**

Answer all the questions.

1)	Define the drug administration phase, pharmacokinetic phase and pharmacodynamics phase. List the various routes of drug administration available. Explain the key factors in the pharmacokinetic phase. (6+4+10 = 20 marks)	(20)
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. (10+5+5 =20 marks)	(20)
3)	Explain the mode of action of adrenergic agents.	(10)
4)	Define xanthine. List any two xanthines used in respiratory therapy. Explain the clinical indications of xanthines. (2+2+6 =10 marks)	(10)
5A)	Explain aerosol particle size and deposition in the lungs.	(5)
5B)	Write a note on N-Acetyl-L-Cysteine.	(5)
5C)	Differentiate between hypertensive emergency and hypertensive urgency.	(5)
5D)	Explain the physiology of the neuromuscular junction.	(5)
5E)	Identify the hazards and complications of exogenous surfactant therapy.	(5)
5F)	Explain the clinical application for anticholinergic agents.	(5)
6A)	Define pharmacology.	(2)
6B)	Write the differences between the parasympathetic and sympathetic branches of the nervous system.	(2)
6C)	List the indications for nitric oxide.	(2)
6D)	Mention the two types of drug calculations.	(2)
6E)	List the various groups of diuretics.	(2)

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