CVT

Reg. No.											

MANIPAL UNIVERSITY

THIRD/FOURTH YEAR B.Sc. R.R.T. & D.T./B.Sc. C.V.T./B.Sc. M.R.T/B.Sc. R.T./ B.Sc. M.L.T./B.O.T./B.P.T. DEGREE EXAMINATION – JUNE 2015

SUBJECT: BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH METHODOLOGY & STATISTICS/BIOSTATISTICS/BASIC BIOSTATISTICS & RESEARCH METHODOLOGY/RESEARCH METHODOLOGY AND BIOSTATISTICS

Monday, June 01, 2015

Time: 10:00-13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL the questions.**

1. Define statistics and list its role in health sciences.

(5 marks)

2. Describe Validity and Reliability.

(5 marks)

3. Give the difference between nominal and ordinal variables with examples.

(5 marks)

4. Classify the following into different scales of measurements (Nominal, Ordinal, Interval and Ratio).
    a) Temperature $(°F)$ b) City   c) Age
    d) Gender   e) Stage of disease (I/II/III/IV)

(5 marks)

5. Briefly describe Probability and Non Probability sampling.

(5 marks)

6A. In a study of 126 patients admitted in a hospital, it was assessed whether patients were 'Current smoker', Past smoker' or 'Never smoker'. The frequencies of these categories are shown in table below. Represent the data with the help of a pie chart.

Smoking status	Frequency
Current smoker	42
Past smoker	21
Never smoker	63

6B. The data gives the intelligence quotient (I.Q) of 36 children. Construct frequency table along with relative frequencies using the class intervals, less than 90, 90 – 100, 100 – 110, and so on.

99	103	112	118	109	76	110	101	98	100	116	113
139	105	120	106	113	121	99	103	98	117	109	130
95	105	120	93	108	65	85	94	98	101	117	115

(5+5 = 10 marks)

7A. Why do we use coefficient of variation? How is it different from standard deviation? Explain with an example.

7B. Compute the median, range and inter-quartile range for the following data:
SBP (mmHg):   120 125 121 123 125 127 122 128 123 126 122

(5+5 = 10 marks)

8. It was observed that the incubation period in days of patients with infectious hepatitis follows normal distribution with a mean of 20 days and standard deviation of 4 days. What percentage of the patients have incubation period:

8A. Below 12 days

8B. Between 24 and 28 days

(5 marks)

9. What is Karl-Pearson's correlation coefficient? List its properties.

(5 marks)

10. Write a note on health information system and its requirements.

(5 marks)

11A. Explain the terms prevalence and incidence with examples.

11B. Define crude birth rate and infant mortality rate.

(6+4 = 10 marks)

12. Define epidemiology. Enumerate its uses. Describe case series analysis.

(10 marks)

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THIRD YEAR B.Sc. C.V.T. DEGREE EXAMINATION – JUNE 2015

SUBJECT: PAPER I – ECHOCARDIOGRAPHY
(COMMON FOR OR & 2011 SCHEME)

Wednesday, June 03, 2015

Time: 10:00-13:00 Hrs.   Max. Marks: 80

✎ **Answer ALL the questions.**

✎ **Label the diagram wherever necessary.**

1. How do you differentiate Restrictive cardiomyopathy from Constructive Pericarditis by Echocardiography?

(20 marks)

2. Explain the role of Echocardiography in Diagnosis and management of disease of Aorta.

(20 marks)

3. **Write short notes on:**

3A. Cardiac Dyssnchrony

3B. Strain and Strain rate

3C. Pulmonary valve M-mode

3D. Echocardiographic significance of IVC

3E. Echo in TAPVC

(8 marks × 5 = 40 marks)

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THIRD YEAR B.Sc. C.V.T. DEGREE EXAMINATION – JUNE 2015

SUBJECT: PAPER II – CARDIAC CATH AND INTERVENTION/
CARDIAC CATHETERISATION AND INTERVENTION
(COMMON FOR OR & 2011 SCHEME)

Friday, June 05, 2015

Time: 10:00-13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL the questions.**

✍ **Draw the diagram wherever necessary.**

1. Explain coronary bifurcation lesions and methods of stenting.

(20 marks)

2. Explain types of Patent ductus arteriosus and describe in detail cath and device closure of PDA.

(20 marks)

3. **Write short note on:**

3A. Cardiac cath and angio in Aortic regurgitation

3B. Embolic protection devices

3C. Rotational Atherectomy (Rotablators)

3D. DDDR Pacemakers

3E. Cardiac cath in CCP and RCM

(8 marks × 5 = 40 marks)

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THIRD YEAR B.Sc. C.V.T. DEGREE EXAMINATION – JUNE 2015

SUBJECT: PAPER III – CLINICAL CARDIOLOGY
(COMMON FOR OR & 2011 SCHEME)

Monday, June 08, 2015

Time: 10:00-13:00 Hrs.   Max. Marks: 80

✍ **Answer ALL the questions.**

✍ **Draw the diagram wherever necessary.**

1. Describe JVP in detail with diagram. Explain the method of evaluation of JVP in different disease conditions in detail.

(20 marks)

2. Define types of VSD, clinical findings and diagnostic tests in detail.

(20 marks)

3. **Write short notes on:**

3A. Tetralogy of Fallot

3B. Describe the apex beat

3C. Aortic regurgitation

3D. Hemoptysis

3E. Irregularly regular pulse

(8 marks × 5 = 40 marks)