

MANIPAL UNIVERSITY

**THIRD 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./
FOURTH YEAR B.O.T./B.P.T. DEGREE EXAMINATION – JUNE 2017**

**SUBJECT: BIostatISTICS & RESEARCH METHODOLOGY/RESEARCH
METHODOLOGY & STATISTICS/BIostatISTICS/ BASIC BIostatISTICS &
RESEARCH METHODOLOGY/RESEARCH METHODOLOGY AND BIostatISTICS**

Thursday, June 01, 2017

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions.**

1. List and define different types of variables. (6 marks)

2. **Classify the following into the four different scales of measurement:**
 - 2A. Stages of cancer
 - 2B. Blood group
 - 2C. Pain score (mild/moderate/sever)
 - 2D. Age (4 marks)

3. Thirty seven persons were examined for haemoglobin level in their blood (mg per dl). Construct a frequency polygon for the data.

Hb (mg/dl)	11 - 12	12 - 13	13 - 14	14 - 15	15 - 16	16 - 17
No. of persons	5	10	15	4	2	1

(4 marks)

4. Compute 65th percentile and standard deviation for the following data regarding weight of infants (in kg.).

2.32	2.36	2.89	3.03	3.86	2.90	4.01	3.69	3.07	2.87
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(10 marks)

5. Data below shows the number of colonies of bacteria grown on ten agar plates. Calculate median and interquartile range.

60	70	100	160	140	80	110	95	130	115
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(10 marks)

6. **Define the following:**
 - 6A. Perinatal mortality rate
 - 6B. Crude birth rate (2+2 = 4 marks)

7. Describe correlation using scatter plots. (6 marks)

8. The amount of weight gained during pregnancy was assessed and was found to be approximately normally distributed with a mean weight gain of 12 kgs and a standard deviation of 4 kgs. Calculate the proportion of pregnant mothers who gained weight:

- 8A. Less than 20 kgs
- 8B. Between 12 to 16 kgs
- 8C. At least 8 kgs

(2 marks \times 3 = 6 marks)

9. **Write short notes on:**

- 9A. Reliability
- 9B. Epidemiology and its aims
- 9C. Systematic sampling
- 9D. Characteristics of good hypothesis
- 9E. Disease Registries
- 9F. Case reports

(5 marks \times 6 = 30 marks)



MANIPAL UNIVERSITY**THIRD YEAR B.Sc. RRT & DT DEGREE EXAMINATION – JUNE 2017**

SUBJECT: BDT 301 – ADVANCED HD, SPECIAL EXTRACORPOREAL TREATMENTS AND PATIENT EDUCATION

Saturday, June 03, 2017

Time: 10.00-13.00 Hrs.

Max. Marks: 80

1. Long essay questions:

- 1A. Describe continuous venovenous hemodiafiltration (CVVHDF).
- 1B. Discuss the extracorporeal therapies used in poisoning.
- 1C. Discuss the complications of plasmapheresis.

(10 marks × 3 = 30 marks)

2. Short essay questions:

- 2A. Discuss hemodialysis water purity maintenance.
- 2B. Discuss the extracorporeal therapies that may be used in Liver disease.
- 2C. Discuss isolated ultrafiltration.
- 2D. How is extracorporeal circuit clotting during continuous renal replacement therapy (CRRT) handled?
- 2E. Describe the centrifugation method of plasmapheresis.
- 2F. Discuss the psychological disorders seen in end stage renal disease (ESRD).

(5 marks × 6 = 30 marks)

3. Short notes questions:

- 3A. What are the complications of citrate anticoagulation?
- 3B. What are the indications for sustained low efficiency dialysis (SLED)?
- 3C. What are the benefits of daily hemodialysis?
- 3D. Mention two important aspects of the standards for the hemodialysis reuse area.
- 3E. What are the advantages of acute peritoneal dialysis?
- 3F. What is online hemodiafiltration?
- 3G. How would you handle needle phobia in the hemodialysis patient?
- 3H. What is the typical composition of the continuous venovenous hemofiltration (CVVHF) replacement fluid?
- 3I. What is a high flux dialyser?
- 3J. Name the components of a continuous venovenous hemofiltration (CVVHF) prescription.

(2 marks × 10 = 20 marks)

