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MANIPAL UNIVERSITY
THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2012
SUBJECT: BIOSTATISTICS
(COMMON FOR BOTH OLD AND NEW REGULATION)

Monday, May 28, 2012

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

1. What are the principles of qualitative research?

(5 marks)

2. Write a note on Validity and Reliability.

(5 marks)

3. Describe qualitative and quantitative variables with examples.

(5 marks)

4. Classify the following into different scales of measurements (Nominal, Ordinal, Interval and Ratio).
4A. Weight
4B. Temperature (°K)
4C. Stages of Cancer
4D. IQ
4E. Telephone number

(5 marks)

5. Explain simple random sampling.

(5 marks)

6A. Present the data given below on percentage of children benefitted by polio immunization in a country from 2006 – 2010 by a simple bar diagram.

Year	2006	2007	2008	2009	2010
Polio (%) Immunization	80	83	88	95	98

6B. Form a frequency table along with relative frequencies for the ages of 48 patients given below. (Class intervals: 0–15, 15–30, 30–45, so on).

31	07	39	43	62	30	38	10	36	29	40	22
40	65	15	30	39	53	47	64	33	46	17	32
36	42	76	50	30	34	25	36	39	36	42	47
32	39	24	57	37	47	27	43	43	54	40	39

(5+5 = 10 marks)

7A. List the merits and demerits of mean and median.

7B. Following are the weights (in kg) of a sample of 10 students

45   64   60   69   46   64   61   65   52   54

Compute range and standard deviation of the above data.

(5+5 = 10 marks)

8. Suppose the systolic blood pressure of adult males is approximately normally distributed with mean 130 mmHg and standard deviation 10 mmHg. In a sample of 600 apparently normal adult males, how many will be with systolic blood pressure?

8A. More than 140 mmHg

8B. In the range 120 – 150 mmHg

(5 marks)

9. How do you interpret correlation with the help of scatter diagram?

(5 marks)

10. Discuss sample registration system as a source of health information system.

(5 marks)

11. Distinguish between incidence and prevalence with an example. Write a short note on rates and ratios.

(10 marks)

12. Define descriptive epidemiology. Describe the different methods in epidemiology.

(10 marks)

MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: CYTOLOGY AND CYTOGENETICS

(COMMON FOR BOTH OLD AND NEW REGULATION)

Wednesday, May 30, 2012

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

✍ **Answer all questions.**

1A. Discuss about various steps in karyotyping.

1B. Enumerate on normal cytology of sputum. Add a note on methods for sputum collection.

$(15+15 = 30$ marks$)$

2. **Write detailed notes on:**

2A. Cell block preparation.

2B. Pre fixation.

2C. Apoptosis.

2D. PAP staining techniques.

2E. FNAC.

2F. Pathologic urinary crystals.

2G. General cytological characteristics of malignant cell.

$(5 \times 7 = 35$ marks$)$

3. Write short notes on:

3A. Principal target of abrasive cytology.

3B. Maturation value.

3C. Preparation of Mayer's albumin.

3D. Metaplasia.

3E. Schiller's iodine test.

$(3 \times 5 = 15$ marks$)$

MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: GENERAL BACTERIOLOGY, IMMUNOLOGY AND SYSTEMIC BACTERIOLOGY

(NEW REGULATION)

Friday, June 01, 2012

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

✍ **Answer the following questions:**

1. Explain the methods of gene transfer and their significance in bacteria.

(15 marks)

2. Classify sterilization. Discuss in detail the heat sterilization.

(15 marks)

3. **Write briefly on:**

3A. Nonspecific tests for syphilis.

3B. Food poisoning.

3C. Pseudomonas aeroginosa.

3D. Acquired immunity.

3E. Atypical mycobacteria.

(7×5 = 35 marks)

4. **Write short notes on:**

4A. Halophilic vibrios.

4B. Laboratory diagnosis of plague.

4C. Natural killer cells.

4D. Prevention of hospital acquired infections.

4E. Antibiotic associated diarrhoea.

(3×5 = 15 marks)

MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: HISTOPATHOLOGICAL TECHNIQUES

(COMMON FOR BOTH OLD AND NEW REGULATION)

Monday, June 04, 2012

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

✍ **Answer all questions.**

1A. What is the aim of decalcification? Write in detail about decalcifying agents and determination of end point of decalcification.

(3+6+6 = 15 marks)

1B. List the staining methods for demonstration of elastic fibers. Explain about preparation of reagents and procedure of Verhoeff's staining technique .

(3+6+6 = 15 marks)

2. **Write detailed notes on:**

2A. Picric acid fixatives.

2B. Dehydrating agents.

2C. Types of microtome.

2D. Cryostat.

2E. Embedding tissue in paraffin wax.

2F. Resinous mounting medias.

2G. Hone stones.

(5×7 = 35 marks)

3. **Write short notes on:**

3A. Mayer's haematoxylin.

3B. Helly's fluid.

3C. Abrasive powders.

3D. Eosin and its substitutes.

3E. Vapour fixation.

(3×5 = 15 marks)

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THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: MYCOLOGY, VIROLOGY AND PARASITOLOGY

(NEW REGULATION)

Wednesday, June 06, 2012

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

✍   **Answer all Questions. Draw diagrams if necessary.**

1.   Describe the life cycle of Plasmodium species. Add a note on laboratory diagnosis of malaria.

(15 marks)

2.   Classify viruses with examples. Explain the lab diagnosis of HIV infection.

(15 marks)

3.   **Write detailed notes on the following:**

3A. Taenia solium

3B. Dermatophytes

3C. General features of cestodes

3D. Entamoeba histolytica

3E. Sub cutaneous mycoses

3F. Candidiasis

3G. Hepatitis B virus

(5×7 = 35 marks)

4.   **Write short notes on the following:**

4A   Histoplasmosis

4B   Interferons

4C   Microfilaria

4D   Toxoplasmosis

4E. Negri bodies

(3×5 = 15 marks)

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