

MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: HISTOPATHOLOGICAL TECHNIQUES
(COMMON FOR BOTH OLD AND NEW REGULATION)

Monday, June 03, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

 Answer ALL questions.

1A. Classify haematoxylin. Discuss about preparation of reagents and procedure of Hand E staining technique.

(4+5+6 = 15 marks)

1B. Classify fixatives. Explain about microanatomical fixatives with its use, merits and demerits.

(2+8+5 = 15 marks)

2. Write detailed notes on:

2A. Resinous mounting media

2B. Z-N staining technique

2C. Perls-Prussian blue reaction for hemosiderin

2D. Types of honing stones and technique of honing

2E. Clearing technique and clearing agents

2F. Reticulin fiber staining

2G. Stain for mucin

(5×7 = 35 marks)

3. Write short notes on:

3A. Name fixatives used in immunohistochemistry

3B. Mordants

3C. Enzyme digestion in carbohydrate identification

3D. Methods for removal of excess fixatives

3E. Name the staining techniques used for demonstration of elastic fibers

(3×5 = 15 marks)



MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: CYTOLOGY AND CYTOGENETICS
(NEW REGULATION)

Wednesday, May 29, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

- ✍ Answer ALL questions.
- ✍ Draw diagrams if necessary.

1A. Classify epithelium. Discuss about epithelia serving reproductive function and miscellaneous epithelium with help of diagram.

(5+7+3 = 15 marks)

1B. Discuss about collection of cytological specimen. Add a note on coating fixatives.

(10+5 = 15 marks)

2. Write detailed notes on:

- 2A. Demonstration of sex chromosome
- 2B. Preservation of fluid specimen
- 2C. Apoptosis
- 2D. Morphology of cancer cell
- 2E. Cell block method
- 2F. Shorr staining
- 2G. Flowcytometry

(5×7 = 35 marks)

3. Write short notes on:

- 3A. VCE smear
- 3B. Destaining
- 3C. Down syndrome
- 3D. Mailing of unstained smear
- 3E. Preparation of smear from fluid specimen

(3×5 = 15 marks)



MANIPAL UNIVERSITY**THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2013****SUBJECT: GENERAL BACTERIOLOGY, IMMUNOLOGY AND SYSTEMIC BACTERIOLOGY
(NEW REGULATION)**

Friday, May 31, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

Answer the following questions:

1. Define the term sterilization. Classify methods of sterilization by moist heat and explain autoclave in detail.

(1+4+10 = 15 marks)

2. Explain the pathogenesis, laboratory diagnosis and prevention of Mycobacterium tuberculosis infection.

(5+7+3 = 15 marks)

3. **Write briefly on:**

3A. Serodiagnosis of syphilis

3B. Conjugation

3C. Bacterial cell wall

3D. Type I hypersensitivity reaction

3E. Laboratory diagnosis of enteric fever

(7×5 = 35 marks)

4. **Write short notes on:**

4A. Contributions of Louis Pasteur

4B. Enzyme linked immunosorbent assay

4C. Laboratory diagnosis of nocardiosis

4D. Nagler's test

4E. Etiopathogenesis of bacillary dysentery

(3×5 = 15 marks)



MANIPAL UNIVERSITY

THIRD YEAR B.Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: BIOSTATISTICS

(NEW REGULATION)

Monday, May 27, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. List the principles of qualitative research. (5 marks)

2. Describe internal validity and face validity. (5 marks)

3. What is the difference between qualitative and quantitative variables? Explain with examples. (5 marks)

4. Classify the following into different scales of measurements (Nominal, Ordinal, Interval and Ratio). (5 marks)
 - 4A. Address
 - 4B. Height
 - 4C. Heart rate
 - 4D. Ph value
 - 4E. Pain score

5. Explain judgment sampling. (5 marks)

- 6A. In a study of 252 patients admitted in a hospital, it was assessed whether patients were 'likely to be discharged', 'possibly to be discharged' or 'unlikely to be discharged'. The frequencies of these categories are shown in table below. Represent the data with the help of a pie chart.

| Discharge | Frequency |
|-----------|-----------|
| Unlikely | 126 |
| Possibly | 84 |
| Likely | 42 |

- 6B. Following are the fasting blood glucose level (mg/dl) of 30 children. Prepare a frequency table with 5 equal class intervals. Also find the relative frequencies.

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|
| 62 | 65 | 56 | 64 | 63 | 77 | 72 | 79 | 62 | 73 |
| 57 | 57 | 59 | 67 | 62 | 61 | 61 | 60 | 55 | 75 |
| 57 | 65 | 75 | 65 | 68 | 61 | 60 | 68 | 69 | 67 |

(5+5 = 10 marks)

7. Systolic blood pressure levels (mmHg) of ten patients who visited the OPD is as follows. Calculate mean, median, inter-quartile range and standard deviation.
105 120 125 112 125 120 115 130 116 101
(10 marks)
8. Given the mean and standard deviation of weight of new born babies are 3 kg and 0.5 kg respectively. Assuming normality estimate the percentage of newborns with weight.
- 8A. More than 2.5 kg
8B. Between 2.5 kg and 4 kg
(5 marks)
9. Enumerate the properties of correlation with the help of scatter diagrams.
(5 marks)
10. Describe health information system and its uses.
(5 marks)
11. Define prevalence and incidence with examples. Distinguish between ratio and proportion.
(10 marks)
12. What is descriptive epidemiology? Enumerate its uses and explain case series studies.
(10 marks)



MANIPAL UNIVERSITY
THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – MAY/JUNE 2013

SUBJECT: MYCOLOGY, VIROLOGY AND PARASITOLOGY
(NEW REGULATION)

Wednesday, June 05, 2013

Time: 10:00-13:00 Hrs.

Max. Marks: 80

Answer ALL questions. Draw diagrams if necessary.

1. Explain the life cycle, pathogenicity and laboratory diagnosis of *Ancylostoma duodenale*.
(15 marks)

2. Classify mycoses. Explain opportunistic mycoses.
(15 marks)

3. **Write detailed notes on the following:**
 - 3A. Lab diagnosis of amoebic dysentery
 - 3B. Rabies
 - 3C. Life cycle of malarial parasite in humans
 - 3D. Herpes simplex virus
 - 3E. *Taenia solium*
 - 3F. Cultivation of viruses
 - 3G. HIV

(5×7 = 35 marks)

4. **Write short notes on the following:**
 - 4A. Viral replication
 - 4B. Safety precautions in virology laboratory
 - 4C. NIH swab
 - 4D. Giardiasis
 - 4E. Piedra

(3×5 = 15 marks)



