

MANIPAL UNIVERSITY**THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2007****SUBJECT: HISTOPATHOLOGICAL TECHNIQUES**

Monday, December 10, 2007

Time: 3 Hrs.

Max. Marks: 80

☞ Answer all questions.

1. Answer the following:

- 1A. Enumerate the different staining techniques used for the demonstration of fat. Write the principle, procedure and reagent preparation for fat staining.
- 1B. Enumerate the criteria of ideal fixatives. Classify the fixatives and write detailed notes on Microanatomical fixatives.

(15×2 = 30 marks)

2. Write detailed notes on:

- 2A. Reticulin staining
- 2B. Rocking microtome.
- 2C. Masson's Fontana method for melanin.
- 2D. Manual tissue processing
- 2E. Adhesives
- 2F. Paraffin section cutting
- 2G. Staining and differentiation

(5×7 = 35 marks)

3. Write short notes on:

- 3A. Electrophoretic method of decalcification.
- 3B. Sudan III staining technique.
- 3C. Classification of dyes.
- 3D. Chemical method for detection of end point of decalcification.
- 3E. Mounting of the stained tissue.

(3×5 = 15 marks)



MANIPAL UNIVERSITY
THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2007
SUBJECT: CYTOLOGY AND CYTOGENETICS

Tuesday, December 11, 2007

Time: 3 Hrs.

Max. Marks: 80

✍ **Answer ALL questions. Draw diagram if necessary.**

- 1A. Explain about fine needle aspiration cytology. Describe the procedure for PAP staining.
1B. List the different types of banding technique. Explain in detail about G-banding.

(15×2 = 30 marks)

2. Write notes on:

- 2A. PAS staining.
2B. Preparation of cell blocks by plasma thrombin clot method.
2C. Preparation of Orange G stain.
2D. Saccomanno's technique.
2E. Cytocentrifuge preparation.
2F. Heterochromatin.
2G. Histocyte.

(5×7 = 35 marks)

3. Write briefly on:

- 3A. Mountant.
3B. Cooking slide.
3C. Mayer's albumin.
3D. Shorr's stain.
3E. Ayer's spatula.

(3×5 = 15 marks)



MANIPAL UNIVERSITY**THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2007****SUBJECT: DIAGNOSTIC BACTERIOLOGY, PARASITOLOGY AND IMMUNOLOGY**

Wednesday, December 12, 2007

Time: 3 Hrs.

Max. Marks: 80

✍ **Answer ALL questions.**

1. With the help of a diagram explain the structure of bacterial cell with its function.
(10+5 = 15 marks)

2. Mention the serological tests done in microbiology laboratory. Discuss in detail the working principle and uses of ELISA.
(6+6+3 = 15 marks)

3. Write short essay on:
 - 3A. Moist heat sterilization.
 - 3B. Widal test.
 - 3C. Laboratory diagnosis of Ascariasis.
 - 3D. Bacterial toxoides.
 - 3E. Routes of entry of infections.
 - 3F. Bacterial growth curve.
 - 3G. Morphological forms of Entamoeba histolytica.(5×7 = 35 marks)

4. Write short notes on:
 - 4A. Morphological classification of bacteria.
 - 4B. Rapid diagnosis of meningitis caused by Streptococci pneumoniae.
 - 4C. Nagler's reaction.
 - 4D. Sabin Feldtmen dye test.
 - 4E. T lymphocytes.(3×5 = 15 marks)



MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2007

SUBJECT: MYCOLOGY AND VIROLOGY

Thursday, December 13, 2007

Time: 3 Hrs.

Max. Marks: 80

✍ Answer ALL questions. Draw diagrams if necessary.

1A. Discuss the superficial fungal infections and its laboratory diagnosis.

1B. Elaborate on Viral vaccines.

(15×2 = 30 marks)

2. Write detailed notes on:

2A. Saprophytic fungi

2B. Rabies

2C. Candidosis

2D. Detection of virus growth in cell cultures

2E. Tease mount preparation

2F. Nucleic acid based tests for the detection of viral infections

2G. Sporotrichosis

(5×7 = 35 marks)

3. Write short notes on:

3A. SDA

3B. Immunofluorescence

3C. Opportunistic fungi

3D. Explant cultures

3E. Rapid growers

(3×5 = 15 marks)



MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2007

SUBJECT: BIOSTATISTICS

Friday, December 14, 2007

Time: 3 Hrs.

Max. Marks: 80

✍ **Answer ALL the questions.**

1. Explain some uses of statistics in health science with example. (5 marks)

2. Qualitative and quantitative characteristics with example. (5 marks)

3. Explain the meaning of dependent and independent variables in research with example. (5 marks)

4. Define the following terms- Population, Sample, Sampling, Sampling frame and Sample size. (5 marks)

5. Explain exclusive and inclusive type class interval with example. (5 marks)

6. Following table shows the pass percentage of undergraduate Physiotherapy students in four successive years. Represent the data by an appropriate bar diagram and interpret.

Year	2005	2006	2007	2008
Male	88	85	80	77
Female	90	93	96	99

(5 marks)

7. Define mean and median of a distribution. State their merits and demerits. (5 marks)

8. The following are the fasting blood glucose levels of 10 children.
 Blood glucose level in mg/dl 65 72 65 64 68 73 65 64 75 79.
 Compute range and standard deviation. (5 marks)

(5 marks)

9. Given the mean and standard deviation of serum calcium level for healthy men are 9 and 0.5 mg/dl respectively. In a sample of 500 cases, assuming Normality estimate the number of individuals with serum calcium level less than 8.5 mg/dl. (5 marks)
10. What is a scatter diagram? State the merits and demerits of scatter diagram. (5 marks)
11. Define Health Information System. List the requirements to be satisfied by the health information systems. (5 marks)
12. If there had been 200 and 300 cases of an illness in a population at the beginning and towards the end of a year in a population of 30,000, what is the incidence rate? (5 marks)
13. Define Infant Mortality Rate. What are its uses? Discuss its indications. (5 marks)
14. What do you mean by validity of a test? Explain any two types of validity. (5 marks)
15. Define Epidemiology. What is descriptive epidemiology? State its uses. (2+5+3 = 10 marks)

