

**MANIPAL UNIVERSITY****THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2009****SUBJECT: HISTOPATHOLOGICAL TECHNIQUES**

Thursday, December 10, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

**☞ Answer ALL questions.**

- 1A. Define Dehydration. Discuss on dehydrating agents, their properties, automatic and manual technique of dehydration.
- 1B. Classify amyloidosis. Write the characteristics of amyloid. Discuss the principle, procedure and reagent preparation for Amyloid staining.

(15×2 = 30 marks)

**2. Write detailed notes on:**

- 2A. Decalcification.
- 2B. Instruments used for frozen section cutting.
- 2C. PTAH staining technique.
- 2D. Grimelius silver method for Argyrophil cells.
- 2E. Clearing.
- 2F. Embedding media.
- 2G. Mayer's Mucicarmine stain for mucin.

(5×7 = 35 marks)

**3. Write short notes on:**

- 3A. Post chromatization
- 3B. Technique of mounting and properties of ideal mounting media.
- 3C. Protein denaturing agents as fixatives.
- 3D. Metachromatic dyes
- 3E. Eosin and its substitutes.

(3×5 = 15 marks)



## MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2009

SUBJECT: CYTOLOGY AND CYTOGENETICS

Friday, December 11, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ Answer ALL questions. Draw diagram if necessary.

- 1A. Explain about karyotyping and classify human chromosome.  
1B. Explain about cytology of normal urine.

(15×2 = 30 marks)

2. Write notes on:

- 2A. Exfoliative cytology.  
2B. Procedure for PAP staining.  
2C. PAS staining.  
2D. Preservation of fluid specimen.  
2E. Bluing solutions.  
2F. FNAC.  
2G. Barr body.

(5×7 = 35 marks)

3. Write briefly on:

- 3A. Charcot-Leyden crystals.  
3B. Turner syndrome.  
3C. Coating fixative.  
3D. Mailing of unstained smear.  
3E. VCE smear.

(3×5 = 15 marks)



**MANIPAL UNIVERSITY****THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2009****SUBJECT: DIAGNOSTIC BACTERIOLOGY, PARASITOLOGY AND IMMUNOLOGY**

Saturday, December 12, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

1. Discuss the etio-pathogenesis and laboratory diagnosis of syphilis. (5+10 = 15 marks)
2. Define sterilization. Classify different methods of sterilization and discuss autoclave in detail. (2+5+8 = 15 marks)
3. Write short essay on:
  - 3A. Diarrhegenic E.coli.
  - 3B. Discuss the laboratory diagnosis for diphtheria.
  - 3C. Delayed hypersensitivity.
  - 3D. Immunoglobulins.
  - 3E. Bacterial growth curve.
  - 3F. Cultivation of viruses.
  - 3G. Free living amoebae.(5×7 = 35 marks)
4. Write short notes on:
  - 4A. Louis Pasteur.
  - 4B. Toxoids.
  - 4C. Cytokines.
  - 4D. Blood culture.
  - 4E. Neurocysticercosis.(3×5 = 15 marks)



# MANIPAL UNIVERSITY

## THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2009

### SUBJECT: BIostatISTICS

Monday, December 14, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

- 1A. State the functions and limitations of statistics.  
 1B. Explain discrete and continuous variables with example.
- (5+5 = 10 marks)

- 2A. Differentiate nominal and ordinal scales of measurement with example.  
 2B. Explain stratified random sampling with example. State its advantages over simple random sampling.
- (5+5 = 10 marks)

3. Following are the height distribution of 30 students of a class.

Height in inches of 30 students of a class				
60	71	67	68	69
72	61	60	65	70
66	65	64	69	68
60	63	70	67	69
62	63	67	68	67
70	73	65	69	74

- i) Prepare a frequency table with class intervals 60-63, 63-66, 66-69, .....
- ii) Represent the data by a histogram.
- (5+5 = 10 marks)

- 4A. Calculate median and standard deviation for the following data:  
 Sys. B.P (mmHg): 121, 128, 125, 119, 122, 125, 118, 126,

- 4B. Define and explain the use of Coefficient of Variation.
- (6+5 = 11 marks)

- 5A. Explain the interpretation of correlation coefficient.  
 5B. 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
- i) more than 2.5 Kgs    ii) between 2.5 and 3.5 Kgs
- (4+5 = 9 marks)

- 6A. Discuss Sample registration system as a source of health information system.

- 6B. Explain the terms rate and ratio with example.
- (5+5 = 10 marks)

- 7A. Differentiate Reliability and Validity with example.

- 7B. Define Crude death rate. What are its uses and limitations?
- (5+5 = 10 marks)

- 8A. Enumerate the uses of descriptive epidemiology.

- 8B. Write short note on Cross-sectional studies.
- (5+5 = 10 marks)



## MANIPAL UNIVERSITY

THIRD YEAR B. Sc. M.L.T. DEGREE EXAMINATION – DECEMBER 2009

SUBJECT: MYCOLOGY AND VIROLOGY

Tuesday, December 15, 2009

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ Answer all questions. Draw diagrams if necessary.

- 1A. Discuss the systemic mycosis and its Laboratory diagnosis.
- 1B. Define oncogenes. Elaborate on Oncogenic DNA and RNA viruses.

(15×2 = 30 marks)

2. Write detailed notes on:

- 2A. Preservation of fungal cultures.
- 2B. Detection of viral growth in cell cultures.
- 2C. Germ tube test.
- 2D. Rabies.
- 2E. SDA.
- 2F. Paracoccidiosis.
- 2G. Interferons.

(5×7 = 35 marks)

3. Write Short notes on:

- 3A. Opportunistic fungi.
- 3B. Explant cultures.
- 3C. BHIA.
- 3D. Negri bodies.
- 3E. Fungal stains.

(3×5 = 15 marks)

