

**PG (NEW) CBCS**  
**M.Sc. Semester-I Examination, 2019**  
**MMLT**  
**PAPER: MMLT-101**  
**(Human Anatomy & Physiology)**

**Full Marks: 40****Time: 2 Hours**

- 1. Answer any four questions of the following questions: 2×4=8**
- a) Mention the different parts of Uterine tube.
  - b) What is Surfactant?
  - c) Mention the location and functions of Pulmonary valve.
  - d) What do you mean by Blind spot?
  - e) Write the functions of FSH in male.
  - f) What do you mean by Saltatory nerve conduction?
  - g) Why maximum Neabsorption takes place in Proximal convoluted tubules of nephron?
  - h) What do you mean by hypoxia and pyrexia?
- 2. Answer any four questions of the following questions: 4×4=16**
- a) i) What do you mean by taste buds?  
 ii) Briefly describe the taste sensation pathway with diagram. 1+3=4
  - b) i) Write the compositions of Gastric juice.  
 ii) How gastric juice helps in food digestion. 2+2=4
  - c) i) Define GFR.  
 ii) Mention the factors affecting GFR. 1+3=4
  - d) Write the functions of Para-Synpathetic division in GI tract and Urinary bladder. 2+2=4
  - e) i) What do you mean by N-M junction?  
 ii) Briefly describe the mechanism muscle contraction. 1+3=4
  - f) “ Glomerular filtration is alkaline is reaction but urine is acid”- Explain.
  - g) Enumerate the structural and functional differences between Skeletal and cardiac muscle.
  - h) What is myopia and how it is corrected?
- 3. Answer any two questions of the following questions: 8×2=16**
- a) i) What are the causes and features of first heart sound?  
 ii) What do you mean by Baroreceptors? Mention its location.  
 iii) How baroreceptors regulate blood pressure. 2+2+4=8
  - b) i) Insulin is a Antidiabetogenic hormone. Justify it.  
 ii) How parathyroid hormone regulate Calcium homeostasis.  
 iii) Mention the clinical features of Cretinism. 3+4+1=8

- c) i) What do you mean by Spermiogenesis?  
ii) Briefly describe the factors affecting of Spermatogenesis.  
iii) Briefly describe the uterine endometrial changes during menstrual cycle. **1+3+4=8**
- d) What is menstruation? Describe the different Phases of menstrual cycle and its harmonic control. **2+6=8**

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**PG (NEW) CBCS**  
**M.Sc. Semester-I Examination, 2018**  
**BOTANY**  
**PAPER: BOT-101**  
**(Microbiology)**

**Full Marks: 40**

**Time: 2 Hours**

**1. Answer any four questions:**

**2×4=8**

- i) Name the components of nitrogenase enzymes.
- ii) What are the different types of T-cells?
- iii) What are positive and negative strand of RNA virus?
- iv) What is Salk vaccine?
- v) How does the prokaryotic flagella differs from eukaryotic flagella?
- vi) What are prions? Give example of a disease caused by it?
- vii) What are agglutination reactions?
- viii) Give example of two water borne disease along with their causal organism.

**2. Answer any four questions:**

**4×4=16**

- i) Discuss the structural organization of HIV and mention its importancy.
- ii) Mention the procedure of food sterilization for preventing microbial contamination.
- iii) Distinguish between the structure and function of flagella and pili.
- iv) Discuss the process of direct ELISA. **4**
- v) What is sexduction? Compare  $F^-$ ,  $F^+$ , Hfr and  $F'$ .
- vi) Write down the process of beer production.
- vii) What do you mean Diauxic growth? How does batch culture differ from continuous culture? **2+2=4**
- viii) Draw and discuss ultrastructure of Gram negative bacterial cell wall. **4**

**3. Answer any two questions:**

**8×2=16**

- i) Why moist heat is more effective than dry heat? State the different principles for formulation of media. Explain diauxic growth curve. **2+2+4=8**
- ii) Describe briefly the different stages of endospore formation in Bacillus species. How does endospore formation is regulated? **6+2=8**
- iii) Compare specialized and generalized transduction. Discuss interrupted mating experiment for gene mapping in bacteria. **3+5=8**
- iv) What are late proteins? Mention regulation for lysogenic cycle. How animal viruses are cultivated in laboratory? **2+2+4=8**

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