

# B.Sc. [Medical (Part-I)]

BF/2009/07

## Anatomy

**M.M. : 100**

**Time : 3 Hours**

*Note: Attempt all questions. Illustrate your answers with suitable diagrams.*

1. **Describe the Stomach under the following headings:**
  - a. Parts & relations.
  - b. Blood supply.
  - c. Lymphatic drainage. [3x4=12]
  
2. **Describe the Ankle joint under the following headings:**
  - a. Articular surfaces.
  - b. Ligaments.
  - c. Movements.
  - d. Applied anatomy. [4x4=16]
  
3. **Describe the Ischiorectal fossa under the following headings:**
  - a. Position.
  - b. Boundaries.
  - c. Contents.
  - d. Applied anatomy. [4x4=16]
  
4. Classify and describe the different types of Synovial joints in the body with examples of each. [20]
  
5. **Write briefly on:**
  - a. Transitional epithelium.
  - b. Umbilicus.
  - c. Implantation.
  - d. Meckel's diverticulum.
  - e. Varicocele. [5x4=20]
  
6. **Describe the Spleen under the following headings:**
  - a. Position. [4]
  - b. Relations. [4]
  - c. Blood supply. [4]
  - d. Applied anatomy. [4]

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## Physiology

**M.M. : 100**

**Time : 3 Hours**

Note: *Attempt SIX questions in all, except the last **(Q.NO. 8)** which is **COMPULSORY**.* Draw diagrams wherever necessary.

1. What is Landsteiner's law. What is 'Rh' Blood group. What is Haemolytic disease of new born. How do you prevent it. [16]
2. Write down structure and functions of Platelets. [16]
3. Write down composition, functions and mechanism of secretion of Saliva. [16]
4. What is the structure of Small intestine. Describe different types of Intestinal movements. [16]
5. Write down in detail the structure of Nephron. Write down the difference in Cortical and Juxta-medullary nephrons. [16]
6. Write down the structure and functions of Cell membrane. [16]
7. **Write notes on:** [16]
  - a. Na- K Pump.
  - b. Facilitated diffusion.
8. **Write short notes on:** [20]
  - a. Heparin.
  - b. AIDS.

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## Medical Statistics & Research Methodology

M.M. : 80

Time : 3 Hours

Note: Use of Simple Calculator is allowed.

### SECTION-A

All questions are Compulsory. Each question carries Four marks. [5x4=20]

1. Explain the objectives of Sampling theory.
2. Define Simple and Composite hypotheses.
3. Explain properties of Arithmetic mean.
4. Define Random & Non-random sampling.
5. Give the importance of Standard error.

### SECTION-B

Attempt any Four Questions. Each Question carries 15 marks.

- 1a. Discuss the simple random sampling and its methods. [7]
- 1b. **A Population of size 100 is divided into four strata whose sizes are:**  
 $N_1=40, N_2=10, N_3=20, N_4=30$  and variances ( $S_i^2$ ) are 2, 3, 4, 5 respectively.  
How would you draw samples of size 20 according to two allocations[Proportional and Optimum]. [8]
- 2a. Discuss the criteria of selecting a sampling procedure. [7]
- 2b. **Find Mode and Median from the following data:**  
**Class Interval:** 5-10    10-15    15-20    20-25    25-30    30-35  
**Frequency** :    2            9            29            54            11            6 [8]
- 3a. Discuss the role of Interview method in data collection. [7]
- 3b. Find Mean & Standard deviation from the following data: [8]  
Income between(Rs.): 100-200    100-300    100-400    100-500    100-600  
No. of Persons :    15            33            63            83            100
- 4a. Discuss the important steps in preparing the scientific reports. [7]
- 4b. Obtain the Regression equations from the following data: [8]  
X:    57    58    59    60    61    62    64  
Y:    77    78    75    82    82    79    81
- 5a. Discuss the problems in Representative sample. [7]
- 5b. The Arithmetic mean and Standard deviation of 20 observations were calculated by a student as 20 and 5 respectively. But while calculating them, an item 13 was misread as 30. Explain how will you find the correct Mean & Standard deviation. [8]
6. **Write short notes on:** [3x5=15]
  - a. Difference between Correlation and Regression.
  - b. Usefulness of Percentile in medical statistics.
  - c. Confidence limits.

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