

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:

X:	57	58	59	60	61	62	64
Y:	77	78	75	82	82	79	81

 [8]
- 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.

B.Sc. [Medical (Part-III)]

BF/2009/07

Anatomy

M.M. : 100

Time : 3 Hours

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

1. Describe origin, course, relations and branches of Facial nerve. [20]
2. **Describe briefly:** [4x5=20]
 - a. Dangerous area of face.
 - b. Vocal cord.
 - c. Nerve supply of Scalp.
 - d. Down's syndrome.
3. **Describe origin, insertion, nerve supply and actions of following muscles:**
 - a. Superior rectus.
 - b. Lateral pterygoid.
 - c. Digastric.
 - d. Stylopharyngeus. [4x5=20]
4. **Write short notes on the following:** [4x5=20]
 - a. Histology of Thyroid gland.
 - b. Optic chiasma.
 - c. Development of parathyroid gland.
 - d. Carotid sheath.
5. **Write short notes on the following:** [4x5=20]
 - a. Development of Tongue.
 - b. Medial wall of Middle ear.
 - c. Sphenoethmoidal recess.
 - d. Quadrate membrane.
6. **Enumerate the following(only names):** [4x5=20]
 - a. Cartilages of Larynx.
 - b. Fibres present in genu part of internal capsule.
 - c. Branches of external carotid artery.
 - d. Muscles of soft palate.
7. **Write short notes on the following:** [4x5=20]
 - a. Inferior horn of lateral ventricle.
 - b. Parotid capsule.
 - b. Histology of sublingual gland.
 - c. Dermatoglyphics.
8. **Describe briefly:** [4x5=20]
 - a. Tela choroidea.
 - b. Fasciculus cuneatus.
 - c. Straight sinus.
 - d. Blood supply of Cerebellum.

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Physiology

M.M. : 100

Time : 3 Hours

Note: Attempt any **FIVE** questions. Draw suitable diagrams wherever necessary.

1. Describe the functions of Hypothalamus.
[20]
 2. Describe synthesis and functions of Thyroid hormones.
[20]
 3. **Compare and contrast the following:**
 - a. Diabetes Mellitus and Diabetes insipidus.
[10]
 - b. Motor aphasia and Sensory aphasia.
[10]
 4. **Write action of the following:**
 - a. Testosterone.
[10]
 - b. Calcitonin.
[10]
 5. **Write notes on:**
 - a. Ovarian cycle.
[10]
 - b. Physiology of Hearing.
[10]
 6. **Write notes on:** [4x5=20]
 - a. Colour vision.
 - b. Withdrawl reflex.
 - c. REM sleep.
 - d. Milk ejection reflex.
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Biochemistry

M.M. : 100

Time : 3 Hours

*Note: Attempt any **FIVE** questions.*

1. What is Replication? Describe the process of Replication.
[20]
2. Define Chromatography. Enumerate the main types of Chromatography. Give brief description and applications of each type.
[20]
3. What is the difference between Oxidative Phosphorylation and Substrate level phosphorylation? How ATPs are synthesized in E.T.C. [5+15=20]
4. How Haem is synthesized? Write a note on Porphyrins.
[10+10=20]
5. Which Plasma protein fraction gives immunity? Enumerate various types of immunoglobulins and describe their structure.
[20]
6. **Write short notes on:** [4x5=20]
 - a. Vander Bergh test.
 - b. Urea clearance test.
 - c. Plasmids.
 - d. DNA vaccine.

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Psychology & Education

(New Scheme)

M.M. : 80

Time : 3 Hours

*Note: Attempt any **FIVE** questions.*

1. Describe the Socio-psychological development of adolescent & young adults?
[16]
 2. What do you know about Cognitive development among youth?
[16]
 3. What problems Indian youth face in areas of home life, religion & health?
[16]
 4. Describe the causes & treatment of Drug abuse?
[16]
 5. Youth need Guidance & Counselling. Discuss?
[16]
 6. Evaluation of knowledge is important part of education. Discuss?
[16]
 7. Describe the role of Media in Education.
[16]
 8. Describe the importance of Websites in education?
[16]
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B.Sc. [Medical (Part-II)]

BF/2009/07

Anatomy

M.M. : 100

Time : 3 Hours

Note: Attempt all questions.

1. Classify Carpometacarpel joints. Describe first Carpometacarpel joint in detail.
[16]
 2. **Enumerate:** [5x3=15]
 - a. Branches of posterior cord of brachial plexus.
 - b. Various openings in right atrium.
 - c. Branches of Right coronary artery.
 - d. Flexors of wrist joint.
 - e. Muscles supplied by posterior interosseous nerve.
 3. **Draw labeled histological diagrams of:** [4x5=20]
 - a. Oesophagus.
 - b. Vas deferens.
 - c. Ureter.
 - d. Aorta.
 4. **Write briefly:** [3x7=21]
 - a. Derivatives of mesonephric ducts in males.
 - b. Development of right atrium.
 - c. Development of anal canal.
 5. **Write short notes on:** [2x7=14]
 - a. Erb's paralyses.
 - b. Mid palmar space.
 6. **Write briefly on:** [2x7=14]
 - a. Azygos vein.
 - b. Bronchopulmonary segments and their applied aspect.
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B.Sc. [Medical (Part-II)]

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Physiology

M.M. : 100

Time : 3 Hours

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

1. Define Hypoxia. Discuss various types of Hypoxia.
[20]
2. Discuss the events of Cardiac cycle.
[20]
3. **Draw labeled diagrams of the following:**
 - a. Lung volumes & capacities.
[10]
 - b. Neuromuscular junction.
[10]
4. **Write short notes on:**
 - a. CO₂ transport in blood. [7]
 - b. Saltatory conduction. [7]
 - c. Absorption of Fat. [6]
5. **Write in brief on:**
 - a. Normal ECG. [7]
 - b. Hering breuer reflex. [7]
 - c. Vitamin C. [6]
6. **Write briefly on:**
 - a. Protein Energy Malnutrition. [7]
 - b. Tetanus. [7]
 - c. Baroreceptors. [6]
7. **Write short notes on:**
 - a. Balanced diet. [7]
 - b. Myelinogenesis. [7]
 - c. Shock. [6]
8. Discuss the age related changes in human beings. Describe the factors which help to delay ageing.
[20]

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Biochemistry

M.M. : 100

Time : 3 Hours

Note: Attempt any **FIVE** questions.

1. a. Describe Citric acid cycle(Kreb's cycle) in detail.
[10]
b. Give an account of uses/importance of HMP shunt or PPP pathway.[10]

2. a. Describe Ketone body metabolism.
[10]
b. Give an account of fatty acid synthesis.
[10]

3. a. **Write short notes on:**
i) Cushing's syndrome. [5]
ii) Acromegaly. [5]
b. Iron homeostasis.
[10]

4. a. **Write short notes on:**
i) Copper. [5]
ii) Glycine. [5]
b. Calcium homeostasis.
[10]

5. a. Describe Urea synthesis in detail.
[10]
b. Discuss Gout.
[10]

6. a. Discuss Adrenal cortex hormones.
[10]
b. Discuss Oxidative deamination and its importance.
[10]
