

Time: 3 Hours

M.M. 70

SECTION-A**Human Anatomy (Max. Marks – 35)****Note:- Draw well labeled diagrams wherever necessary.**

- Q1 Write long Notes. Attempt any one:- (10X1=10)**
 a Describe Gross Anatomy of spinal cord
 b Describe classification of bones
- Q2 Write short notes. Attempt any three:- (5X3=15)**
 a Synovial joint
 b External features of thyroid gland
 c External features of heart
 d Gross anatomy of pancreas
 e Gross anatomy of lungs
- Q3 Write very short notes. Attempt any five :- (1X5=5)**
 a Enumerate bones forming elbow joint
 b Enumerate bones of skull
 c Enumerate Veins of upper limb
 d Enumerate parts of nervous system
 e Enumerate parts of female reproductive system
 f Enumerate layers of eye ball
 g Enumerate meninges of brain
- Q4 Multiple Choice Question. Attempt all. (1X5=5)**
 a Osteology is the study of
 1 Bone 2 Muscles 3 Nerves 4 Joints
 b Wrist drop is due to injury of
 1 Radial nerve 2 Median nerve 3 Ulnar nerve 4 None of the above
 c Number of carpal bones is
 1 Eight 2 Seven 3 Nine 4 Five
 d Parotid gland is
 1 Endocrine gland 2 Exocrine gland 3 Both exocrine and endocrine gland 4 Salivary gland
 e Number of spinal nerve is
 1 Twelve pairs 2 Thirteen pairs 3 Twenty five pairs 4 Thirty one pairs

SECTION-B**HUMAN PHYSIOLOGY (Max. Marks – 35)**

- Q1. Long answer type questions. Attempt any one. (10x1=10)**
 a. Define Menstrual Cycle. Explain its different Phases with diagrams.
 b. Define Haemostasis. Explain both coagulation mechanism with the help of a flow chart.
- Q2. Short answer type questions. Attempt any three. (5x3=15)**
 a. Functions of platelets.
 b. Blood groups and its types
 c. Neuro Muscular Junction
 d. Define hypoxia and its type.
 e. Functions of gastric juice

Q 3. Very short answer type questions. Attempt any five.

(1x5=5)

- a. Anaemia
- b. spermatogenesis
- c. Active transport
- d. Define Heart sounds
- e. breath sounds
- f. surfactant
- g. Vital Capacity

Q 4. Multiple choice questions. Attempt all.

(1x5=5)

- a. Which one is not a granulocyte:
 - i. Lymphocyte
 - ii. Monocyte
 - iii. Erythrocyte
 - iv. All of the above
- b. Sarcolemma is :
 - i. A skeletal muscle fiber
 - ii. A smooth muscle fiber
 - iii. Cell membrane of muscle fibers
 - iv. Sheath of myelin
- c. All are the component of small intestine except:
 - i. Oesophagus
 - ii. Duodenum
 - iii. Jejunum
 - iv. Ileum
- d. Protein synthesis takes place in :
 - i. Ribosome
 - ii. Endoplasmic reticulum
 - iii. Nucleus
 - iv. Golgi complex
- e. Heme
 - i. Is the pigment in haemoglobin
 - ii. Is an iron containing porphyrin
 - iii. Iron in it is in ferrous form
 - iv. All of the above

Printing Pages :1

Paper Code : BOPT-102 C (SVSU:2021-22/R)

Enrollment No.

[illegible]

Bachelor of Optometry (BOPT)

Ist Year Examination

Ocular Anatomy, Pathology and Microbiology

Time: 3 Hours

Max. Marks: 70

Note: All questions are compulsory. Make diagrams wherever required.

Q1. MCQs. Attempt all. Select the correct choice as applicable.

2 Mark each (2x5=10)

- a. Cornea has _____:
i. Five layer ii. Six layers iii. Both iv. None of these
- b. Power of cornea is
i. 44 D ii. Both iii. 60 D iv. None of these
- c. Measurement specific gravity of urine by:
i. Urinometer iii. Colorimeter
ii. Measuring cylinder iv. None of these
- d. Formation of blood is-
i. Erythropoiesis iii. Erythrocytosis
ii. Hematopoiesis iv. All of these
- e. Power of lens is
i. 17 D ii. Bot iii. 60 D iv. None of these

Q2. Fill in the blanks. Attempt all.

2 Marks Each (2x5=10)

- Power of crystalline lens is-----
- Visual center is.....
- Medial rectus is a.....
- Specific gravity of urine is.....
- Bacterial flagella is made up with.....

Q3. Write True or False. Attempt all.

2 Marks Each (2x5=10)

- Pupil is a pupillary aperture.
- Retina has 10 layers
- Hemoglobin estimated by CuSO_4 solution.
- Louis Pasteur discovered the microscope.
- Bacteria have eukaryotic cells.

Q4. Attempt any four of the following:

5 Marks Each (5x4=20)

- What is meibomian gland?
- What are superior oblique muscles?
- What is iris?
- Write about the microbiology and their various branches.
- Write about binary fission.

Q5. Attempt any two of the following:

10 Marks Each (10x2=20)

- What are extra ocular muscles? Explain all with diagram.
- Write about the various parts of microscope with the help of diagram.
- Define is blood? What is Composition and function of blood?

Ocular Physiology & Biochemistry including Binocular reflexes & its maintenance
(Subject Code: BOPT-103)

Time: 3 Hours

M.M. 70

Note: All questions are compulsory. Make diagrams wherever required.

Q1. Long answer type questions. Attempt any three.

(10x3=30)

- What is pupillary reflex? Draw the diagram.
- Explain about accommodation & what are the types of accommodation?
- Explain about Extra Ocular Muscles.
- What is Carbohydrate? Describe the classification of carbohydrate.
- Describe the Kreb's cycle and its energetic.

Q2. Short answer type questions. Attempt any five.

(5x5=25)

- Draw the horizontal diagram of eye.
- Draw the diagram of layers of cornea.
- What is Schiottz tonometer?
- Describe the essential and non essential amino acid.
- Write the principle, procedure and observation of Benedict's test for glucose.
- Describe the aqueous humor.
- Describe the Pentose Phosphate pathway.

Q 3. Very short answer type questions. Attempt any five.

(1x5=5)

- How many ATPs are produced in glycolysis?
- Write the example of pentose sugar.
- Write about rods and cones.
- What is convergence?
- What is Snellen's chart?
- What is pin hole?
- What is mean of 6/60?

Q4. Multiple choice questions. Attempt all.

(1x10=10)

a. Anterior surface of cornea is

- i. Circular ii. Elliptical iii Both iv. None

b. Power of cornea is

- i. 60D ii. 30D iii.43 iv.None

c. Layers of retina are

- i. 10 ii. 12 iii. 15 iv. All

d. Eye has

- i. Anterior segment ii. Posterior segment iii. Both iv. None

e. Refractive index of aquas humor is

- i. 1.33 ii. 1.39 iii. 1.5 iv. None

f. Anisocoria is

- i. Multiple pupils ii. No pupil iii. Unequal pupil iv. None

g. The sugar found in milk is

- i. Glucose ii. Fructose iii. Lactose iv. Maltose

h. Pyruvic acid is the end product of

- i. Glycolysis ii. Gluconeogenesis iii. Glycogenesis iv. None of These

i. Aqueous humor is present in between

- i. lens and cornea ii. Cornea and iris iii. Both of these iv. None of these

j. Peptide Bonds are preset In

- i. Lipids ii. Carbohydrates iii. Proteins iv. None of These

Printing Pages : 2

Paper Code : BMLT/BOTT/BOPT-105

A (SVSU:2022-23/R)

Enrollment No.

Subject Code: BMLT/BOTT/BOPT- 105

**B.Sc. Medical Laboratory Technology (BMLT)/ B.Sc. Operation
Theatre Technology (BOTT)/Bachelor of Optometry (BOPT) Ist Year
Computational Skills & Biostatistics**

Time: 3 Hours

M.M. 70

SECTION-A**Subject: Computational Skills (M.M. 35)***Note: All questions are compulsory. Make diagrams wherever required.***Q1. Long answer type questions. Attempt any one.****(10x1=10)**

- What is topology in network? Explain different types of topology.
- What is MS office? Discuss its applications and functions?

Q2. Short answer type questions. Attempt any three.**(5x3=15)**

- What is network? Explain different types of network.
- What does updating anti-virus programs' mean?
- Explain the difference between binary number system and decimal number system?
- What are basic operations of computer and give its applications?
- What is the Difference between Save and Save As?

Q 3. Very short answer type questions. Attempt any five.**(1x5=5)**

- How many bits are in a byte?
- Which key is pressed to make text bold?
- Word text can be made italic by which shortcut key?
- ALU stands for?
- In 1 gigabyte how many megabytes are there?
- What is the range of the capital letters of the English alphabet In the ASCII code?
- What types of symbols are used for data representation in computer?

Q 4. Multiple choice questions. Attempt all.**(1x5=5)**

- Which of the following unit is responsible for converting the data received from the user into a computer understandable format?
i) Output Unit ii) Input Unit iii) Memory Unit iv) Arithmetic & Logic Unit
- What is the full form of CPU?
i) Computer Processing Unit ii) Computer Principle Unit iii) Central Processing Unit iv) Control Processing
- Which of the following is designed to control the operations of a computer?
i) User ii) Application Software iii) System Software iv) Utility Software
- Which of the following are physical devices of a computer?
i) Hardware ii) Software iii) System Software iv) Package
- A computer system includes
i) Hardware ii) Software iii) Peripheral devices iv) All of these

SECTION-B
Subject: Biostatistics (M.M. 35)

Q1. Long answer type questions. Attempt any one.

(10x1=10)

- a. Pulse rate of 12 individuals are given as: 68,66,70,74,80,88,90,100,79,88,96 & 97
Calculate mean, median and mode.
- b. Define Normal Distribution? Also discuss about its characteristics Skewness and Kurtosis?

Q2. Short answer type questions. Attempt any three.

(5x3=15)

- a. Type I & Type II error
- b. Coefficient of Variation
- c. Assumptions of Chi Square Test
- d. Scales of Measurement
- e. Presentation of Data

Q 3. Very short answer type questions. Attempt any five.

(1x5=5)

- a. Mode
- b. Degree of freedom
- c. Variable
- d. Null Hypothesis
- e. Quantitative data
- f. Formula for paired t test
- g. Parameter

Q 4. Multiple choice questions. Attempt all.

(1x5=5)

- a. The total area under normal curve is :
(i) 1 (ii) 2 (iii) 3 (iv) 4
- b. The following scores were obtained by eleven footballers in a goal-shoot competition: 5, 3, 6, 8, 7, 8, 3, 11, 6, 3, 2
The modal score is:
(i) 3 (ii) 6 (iii) 8 (iv) 11
- c. We must arrange the data before calculating:
(i) Mean (ii) Median (iii) Mode (iv) Geometric Mean
- d. If the null hypothesis is false then which of the following is accepted?
(i) Null Hypothesis (ii) Positive Hypothesis (iii) Negative Hypothesis (iv) Alternative Hypothesis.
- e. The degrees of freedom for the Chi Square test statistic when testing for independence in a contingency table with 4 rows and 4 columns would be:
(i) 5 (ii) 7 (iii) 12 (iv) 9