

19/05/2025

Printing Pages : 2

Paper Code: BOTT/BOTT(H.A)/BRIT/BOPT- 101/BMLT-104 C (SVSU:2024-25/R)

Enrollment No.

B.Sc. OTT/OTT/(H.A)/RIT/OPT/MLT

1st Year Examination

Subject: Human Anatomy and Physiology

Subject Code: BOTT/BOTT(H.A)/BRIT/BOPT- 101/BMLT-104

Time: 3 Hours

M.M. 70

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

Section (A) (Anatomy)

Q1. Long answer type questions. Attempt any one.

(10x1=10)

- Explain the bones of upper and lower limb of human body.
- Describe the gross anatomy of GIT and draw a well labelled diagram of liver.

Q2. Short answer type questions. Attempt any three.

(5x3=15)

- Describe the gross feature of testis.
- Explain the gross anatomy of respiratory system.
- Discuss the features of skeletal muscle with examples.
- Describe the flat bones of human body.
- Describe the structure of the heart.

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

(1x5=5)

- What type of joint is the knee?
- What is the smallest bone in the human body?
- Where is the tibia located?
- Name of one irregular bone.
- Which part of the brain controls breathing and heart rate?
- Name of one example of synovial joint?

Q 4. Multiple choice questions. Attempt all.

(1x5=5)

- What is the primary function of the circulatory system?
 - To digest food
 - To transport blood and nutrients
 - To produce hormones
 - To remove waste
- What is the main structural component of the skeletal system?
 - Muscles
 - Bones
 - Nerves
 - Ligaments
- Where is the largest organ of the human body located?
 - Inside the chest
 - On the body surface
 - In the abdominal cavity
 - Beneath the skull
- Which type of joint allows movement in multiple directions?
 - Hinge joint
 - Ball-and-socket joint
 - Fixed joint
 - Pivot joint
- Which gland in the human body regulates metabolism?
 - Thyroid gland
 - Adrenal gland
 - Pituitary gland
 - Pancreas

Section (B) Physiology

Q1. Long answer type questions. Attempt anyone.

(10x1=10)

1. Write down the normal constituents of blood and their function.
2. Explain in detail about the urinary system and its importance in human body.

Q2. Short answer type questions. Attempt any three.

(5x3=15)

- a. Describe the structure and function of the human spinal cord.
- b. Discuss the role of hormones in the regulation of the menstrual cycle.
- c. Outline the components of the human immune system and their specific functions.
- d. What is the primary function of the spleen in the human body?
- e. How does the heart pump blood throughout the body?

Q3. Very short answer-type questions. Attempt any five.

(1x5=5)

- a. Normal count of RBC in males and females.
- b. Two Functions of Platelets.
- c. Two functions of epithelial tissue.
- d. What is the primary function of the liver?
- e. What is the function of the lymphatic system?
- f. What is the primary function of the skin?
- g. What is the function of the pancreas?

Q4. Multiple choice questions. Attempt all.

(1x5=5)

- a. What is the primary role of red blood cells?
 - i. To fight infections
 - ii. To carry oxygen
 - iii. To regulate body temperature
 - iv. To produce enzymes
- b. What is the primary function of the digestive system?
 - i. To remove waste
 - ii. To pump blood
 - iii. To break down food and absorb nutrients
 - iv. To produce oxygen
- c. Which system controls voluntary and involuntary actions in the body?
 - i. Endocrine system
 - ii. Respiratory system
 - iii. Nervous system
 - iv. Digestive system
- d. Which organ is responsible for formation of urine?
 - i. Liver
 - ii. Kidneys
 - iii. Lungs
 - iv. Pancreas
- e. What is the basic functional unit of the nervous system?
 - i. Muscle
 - ii. Neuron
 - iii. Hormone
 - iv. Axon

Enrollment No.

B.Sc. O.T. Technology

1st Year Examination

Subject: General Pathology and Microbiology

Subject Code: BOTT- 102

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)

- Describe the process and stages of acute and chronic inflammation.
- Explain the classification of anemia and their laboratory diagnosis.
- Discuss the morphology, pathogenesis, and lab diagnosis of *Mycobacterium tuberculosis*.
- Explain the biomedical waste management system and the color coding used for segregation of waste.

Q2. Short answer type questions. Attempt any six.

(5x6=30)

- Differentiate between apoptosis and necrosis.
- Enumerate the steps involved in Gram staining and interpret its significance.
- Write a note on the laboratory diagnosis of HIV.
- What are the normal constituents of blood and their functions?
- Describe any two commonly used anticoagulants in hematology.
- Write about the structure and function of a compound microscope.
- Discuss the types of vaccines with examples.
- Explain laboratory safety precautions while handling infectious samples.

Q3. Very short answer type questions. Attempt any five.

(1x5=5)

- Name one test each for ESR and Hb estimation.
- Define coagulation disorder.
- Mention one function of neutrophils.
- What is shock?
- Define culture media.
- Write one causative agent of pneumonia.

Q4. Multiple choice questions. Attempt all.

(1x5=5)

- What we study in Pathology?
 - Study of cell
 - Study of Disease
 - Study of Tissue
 - None of these
- Widal test is used for the diagnosis of:
 - Typhoid
 - Tuberculosis
 - Malaria
 - HIV
- Which of the following is a Gram-positive coccus?
 - Staphylococcus
 - E. coli
 - Salmonella
 - Shigella
- Which anticoagulant is used in ESR estimation?
 - Heparin
 - EDTA
 - Sodium citrate
 - Oxalate
- What is the mode of transmission for Hepatitis B?
 - Feco-oral
 - Airborne
 - Blood and body fluids
 - Vector borne

B.Sc. Operation Theatre Technology/O.T.T (H.A) (BOTT & BOTT(H.A)**1st Year Examination****Subject: Medical Biochemistry****Subject Code: BOTT-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)**

- Describe any two buffer systems and their role in pH maintenance.
- Describe the reactions and Energetics of Citric acid cycle.
- Describe the mechanism of blood sugar regulation.
- Describe briefly various factors affecting enzyme activity.

Q2. Short answer type questions. Attempt any six.**(5x6=30)**

- Describe the reactions of Glycolysis.
- Classify carbohydrates giving examples for each class.
- Draw a detailed diagram of the urea cycle.
- Write the principle and uses of colorimetry.
- Write the principle of gel electrophoresis with their uses.
- Describe the structure and functions of eukaryotic cell with labeled diagram.
- Define the lock and key model of enzyme action.

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

- What is the difference between glucose and fructose?
- What is the normal pH of blood?
- What is the basic unit of a protein?
- Name a non-reducing disaccharide.
- Name one lipoprotein that is considered "good cholesterol."
- Which pathway generates NADPH?

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

- Which of the following is a monosaccharide?
i. Maltose ii. Lactose iii. Glucose iv. Sucrose
- Which of the following hormones lowers blood sugar levels?
i. Glucagon ii. Cortisol iii. Adrenaline iv. Insulin
- Which of the following is a coenzyme?
i. Fe^{2+} ii. NAD^+ iii. Zn^{2+} iv. Cl^-
- Vitamin D is synthesized from:
i. Linoleic acid ii. Cholesterol iii. Bile salts iv. Lecithin
- Which of the following is considered "bad cholesterol"?
i. HDL ii. VLDL iii. LDL iv. IDL

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)**

- Discuss the major areas and work of the Central Sterile Supply Department in a hospital.
- Discuss the various methods of sterilization and explain its importance in surgeries.
- Discuss anesthesia and describe its types along with the drugs used.
- Discuss the various positions used in OT along with diagrams.

Q2. Short answer type questions. Attempt any six. (5x6=30)

- Explain the importance of medical ethics in healthcare.
- Describe the steps of medical and surgical hand washing.
- Write the five moments of hand hygiene recommended by WHO.
- Differentiate between manual and ultrasonic cleaning.
- Describe the function of Kelly forceps with a labeled diagram.
- Write five principles of medical ethics with suitable examples.
- Describe the indications of balanced anesthesia.
- Describe dry lubricants and their indications.

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

- Who discovered chloroform and when?
- Who discovered ether as an anesthetic agent?
- What is the standard duration and temperature for using a flash autoclave?
- What is the full form of ETO?
- What is sedation?
- What is analgesia?

Q 4. Multiple choice questions. Attempt all. (1x5=5)**a. Reverse Trendelenburg position is used intraoperatively to control:**

- Hypotension
- Hypertension
- Fever
- Blood glucose level

b. Trendelenburg position is used to treat:

- Hypertension
- Urological procedures
- Rectal surgeries
- Hypotension

c. These all are local anesthetics, except:

- Lidocaine
- Xylocaine
- Bupivacaine
- Ketamine

d. We can use and in a surgical hand wash.

- Plain water and soap
- Distilled water and sanitizer
- Antimicrobial solution and running water
- Lotion and detergent

e. Which of the following is a general anesthetic?

- Lidocaine
- Ropivacaine
- Bupivacaine
- Midazolam

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Paper Code: B.Sc. MLT/RIT/OPT/OTT -105

B

(SVSU:2024-25/R)

Enrollment No.

B.Sc. MLT/RIT/OPT/OTT/OTT(H.A)-1st Year
Subject: Computational Skills And Biostatistics
Subject Code: BMLT/BRIT/BOPT/BOTT/BOTT(H.A)- 105

Time: 3 Hours

M.M. 70

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

Section (A)
Computational Skills (M.M. 35)

Q1. Long answer type questions. Attempt anyone. **(10x1=10)**

- a. What are the characteristics of computers?
- b. What are size base computers and how many types are there?

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

- a. What is computer?
- b. What is difference between hardware and software?
- c. Describe data and information.
- d. Write Short notes on about the types of Operating System.
- e. What is a mouse used for in a computer system?

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

- a. How many types of printers are there
- b. What are the main components of a computer system?
- c. What is RAM, and why is it important?
- d. Explain the difference between system software and application software.
- e. What is hard disk?
- f. What is a computer monitor?

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

- a. Which of the following is the smallest unit of data in a computer?

i. Bit	ii. KB	iii. Nibble	iv. Byte
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- b. Which of the following is designed to control the operations of a computer?

i. User	ii. Application Software	iii. System Software	iv. Utility Software
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- c. Which of the following are physical devices of a computer?

i. Hardware	ii. Software	iii. System Software	iv. Package
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- d. Which of the following is not a type of computer on the basis of operation?

i. Digital	ii. Analog	iii Hybrid	iv Remote
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- e. Which of the following computers are lower than mainframe computers in terms of speed and storage capacity?

i. Mainframes	ii. Hybrid	iii. Mini	iv. Super
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Section (B)
Biostatistics (M.M. 35)

Q1. Long answer type questions. Attempt any two.

(10x2=20)

- a. The following numbers give the incubation period in days in ten consecutive patients of infectious hepatitis: 26,22,36,15,27,19,24,18,23 & 25. Calculate standard deviation.
- b. Define Hypothesis ? Write the steps of Hypothesis testing?
- c. What is measure of Dispersion? Discuss in detail type of Variability?

Q2. Short answer type questions. Attempt any two.

(5x2=10)

- a. What is Chi square test?
- b. Write one importance of Biostatistics.
- c. Define merits and demerits of mode
- d. What is normal curve?

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

(1x2=2)

- a. Define median.
- b. What is Skewness?
- c. What is frequency?

Q 4. Multiple choice questions. Attempt all.

(1x3=3)

- a. In a symmetrical distribution, the mean value is 30 and median value is 30. The value of mode can be:
i. 60 ii. 0 iii. 30 iv. 15
- b. The mode letter of the word "STATISTICS" is:
i. S ii. Both S and T iii. Both S and I iv. T
- c. A specific characteristic of a population is called:
i. Statistic ii. Parameter iii. Variable iv. Sample

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Paper Code: BOTT-106

A

(SVSU:2024-25/R)

Enrollment No.

B.Sc. Operation Theatre Technology (BOTT)
1st Year Examination
Subject: General English and Communication Skills
Subject Code: BOTT- 106

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)

- Write an official letter to the hospital administrator requesting leave for medical reasons.
- Discuss the role of internet & email in modern communication.
- Write a paragraph (about 150 words) on "Importance of communication in healthcare".
- Describe the layout and types of a formal report.

Q2. Short answer type questions. Attempt any six. (5x6=30)

- Give synonyms for the following: (i)happy (ii)beautiful(iii)strong(iv)easy (v) angry
- Give one example each of nouns, verbs, pronouns, adverbs, and adjectives.
- List all eight types of parts of speech.
- What are personal pronouns? List five examples.
- Use the following idioms/phrases in sentences of your own: (i) break the ice (ii)A blessing in disguise (iii)Piece of cake (iv) Once in a blue moon (v) Let the car out of the bag
- Write a paragraph on "Benefits of reading habit"
- Give synonyms for the following: (i)fast (ii) clean(iii)old(iv)sharp (v) agree

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

Transform the following sentences as directed:

- She is writing a letter.(Change to passive voice)
- He said,"I am tired." (Change to indirect speech)
- If you heat ice, it melts. (Change the tense to past)
- They play cricket every Sunday. (Change to negative sentence)
- My name is John. . (Change to Interrogative sentence)
- Boys are playing in the field. (Change the tense to future)

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

- Which of the following is a preposition?
i. Run ii. Under iii. Quickly iv. beautiful
- In the sentence-He and I went to the market, the word **and** is a-
i. Preposition ii. Article iii. Conjunction iv. Noun
- Fill the correct article: He is.....honest man.
i. a ii. An iii. the iv. No article
- Fill the correct article:sun rises in the east..
i. A ii. An iii. The iv. No article
- Which part of speech is the word "**happiness**"?
i. Verb ii. Adjective iii. Adverb iv. Noun