

**Note:**

- The candidates must limit their answers to the answer book (50 pages) issued to them. No supplementary Continuation answer sheet shall be provided.
- Illustrate your answers with suitable diagrams, graphs and flow charts.
- Attempt MCQ in OMR Sheets.
- OMR Sheets shall be collected 15 minutes after starting of Examination.

**Section – A (Applied Anatomy & Applied Physiology)**

**Total-13 Marks**

**Q1. MCQs**

**1.1.** Junction between post synaptic neuron and muscle is known as

- (a) Synapse
- (b) Ganglia
- (c) Neuromuscular junction
- (d) Neurone

**1.2.** Number of cervical nerves present in human body are

- (a) 18 pairs
- (b) 31 pairs
- (c) 24 pairs
- (d) 8 pairs

**1.3.** Which laryngeal cartilage forms a complete ring

- (a) Thyroid
- (b) Arytenoids
- (c) Epiglottis
- (d) Cricoid

**1.4.** Anatomical position has following features except

- (a) Person standing erect
- (b) Forearm are pronated
- (c) Feet together
- (d) Eye looking forward

**1.5.** The largest gland in human body is

- (a) Thymus
- (b) Adrenal
- (c) Pancreas
- (d) Liver

**1.6.** The bladder is lined with \_\_\_\_\_ epithelium.

- (a) Simple columnar
- (b) Transitional
- (c) Stratified squamous
- (d) Simple cuboidal

**1.7** Each haemoglobin contains ----- molecules of iron

- (a) 4
- (b) 6
- (c) 2
- (d) 5

**1.8.** Apoptosis is caused by

- (a) Ribosome
- (b) Lysosome
- (c) Sarcoplasmic Reticulum
- (d) All of the above

**1.9.** First bone to start ossifying is

- (a) Mandible
- (b) Femur
- (c) Clavicle
- (d) Ulna

- 1.10.** Which muscle has the longest muscle fibre
- (a) Deltoid
  - (b) Soleus
  - (c) Gluteus maximus
  - (d) Sartorius

- 1.11** Which of the following cell produce antibodies
- (a) Plasma cell
  - (b) Adipocytes
  - (c) Macrophages
  - (d) Mast cell

- 1.12** In ECG the P wave represents
- (a) Ventricle depolarisation
  - (b) Atrial depolarisation
  - (c) Ventricle repolarisation
  - (d) Atrial repolarisation

- 1.13.** During this phase of menstruation, endometrium become more vascular and may start to shed:
- (a) Proliferative
  - (b) Degenerative
  - (c) Secretory
  - (d) Menstrual

**Section-B (Applied Anatomy)**

**(Total Marks-31)**

**Q.2** Name the parts of digestive system. Describe the stomach in detail with diagram. (10)

**Q3.** Short Answer Questions:

**(3x5=15)**

- (a) Describe myocardium.
- (b) Explain the structure of heart.
- (c) Discuss structure of deltoid muscle.

**Q4.** Very short Answer Questions

**(3x2=06)**

- (a) Make a labelled diagram of Neurone.
- (b) Name the bones of upper limb.
- (c) Enlist the ligaments of hip joint.

**Section – C (Applied Physiology)**

**(Total Marks-31)**

**Q.5** Describe the mechanism of urine formation.

**(10)**

**Q6.** Short Answer Questions:

**(3x5 =15)**

- (a) RAAS Mechanism.
- (b) Explain the electric impulse conduction mechanism in heart with the help of a diagram.
- (c) Discuss composition and functions of CSF.

**Q7.** Very short Answer Questions:

**(3x2=06)**

- (a) Enlist functions of skin.
- (b) Define erythropoiesis.
- (c) Write any 4 functions of liver.

**B.Sc. Nursing 1<sup>st</sup> Semester Supplementary University Examination  
APPLIED ANATOMY AND APPLIED PHYSIOLOGY**

**TIME:- Three Hours**

**Maximum Marks : 75**

**Note:-**

- The candidate must limit their answers to the answer book (40 Pages) issued to them. No supplementary continuous answer sheet shall be provided.
- Attempt all questions sequentially. Attempt Part-A in OMR and Part-B & C in answer booklet. Illustrate your answers with suitable diagram graphs and flow charts.
- OMR sheets shall be collected 15 minutes after starting of examination.

**Section -A (MCQs on Applied Anatomy and Physiology)**

**Total – 13 marks**

1.1 Myxedema is caused by the deficiency of a hormone secreted by :-

- (a) Parathyroid.
- (b) Thymus
- (c) Hypothalamus
- (d) Thyroid.

1.2 Which part of the brain regulates posture and balance:

- (a) Mid brain
- (b) Thalamus
- (c) Diencephalon
- (d) Cerebellum.

1.3 A notch in the bean shaped kidney is called :

- (a) Calyx
- (b) Pyramid
- (c) Renal cortex
- (d) Hilum

1.4 Islets of Langerhans produce:

- (a) Bile
- (b) Trypsin
- (c) insulin
- (d) Renin

1.5 Lecithin is a substance present in the :

- (a) Oropharynx
- (b) Alveoli
- (c) Nasal chambers
- (d) Bronchial tubes

1.6 short saphenous vein is located in:

- (a) Head region
- (b) Shoulder
- (c) lower limb
- (d) Muscle of the heart

1.7 The largest leukocytes are:-

- (a) Monocytes
- (b) Neutrophils
- (c) Lymphocytes
- (d) platelets

1.8 Which of the following muscle tissue is striated and involuntary:

- (a) Smooth Muscle Tissue
- (b) Skeletal muscle tissue
- (c) cardiac Muscle tissue
- (d) all of the above.



1.9 Sebaceous gland of the skin is a type of:

- (a) apocrine gland
- (b) Holocrine gland
- (c) Merocrine gland
- (d) Endocrine gland.

1.10 Organ of corti is a part of :

- (a) External ear
- (b) Middle ear
- (c) Inner ear
- (d) Nasal Cavity

1.11 Progesterone is secreted by:

- (a) Graafian follicle
- (b) ovarian stromal cells
- (c) corpus leutum
- (d) Uterine endometrium

**Section- B (Applied Anatomy)**  
**(Total 31 marks)**

Q 2. Enumerate primary digestive organ and accessory digestive organs of the human body and describe stomach in detail. (10 marks)

Q 3. Briefly explain: (5 marks each)

- (a) Structure of the ovary.
- (b) Components of the Synovial joint.
- (c) Structure of Neuron

Q 4. write short note: (2 marks each)

- (a) Structure of the Heart
- (b) Ligaments of uterus
- (c) Structure of eye

1.12 The absorption of the fats and glycerol takes place in the ;

- (a) ileum
- (b) Stomach
- (c) Lacteals
- (d) Large intestine

1.13 Hemopoiesis is a process of the production of :

- (a) Blood plasma
- (b) Bone Marrow
- (c) Hemoglobin
- (d) Erythrocytes

**Section - C (Applied physiology)**  
**(Total 31 Marks)**

Q5. Describe in detail the physiology of respiration and factor affecting respiration. (10 marks)

Q 6. Briefly explain: (5 marks each)

- (a) Mechanism of secretion of Hydrochloric acid.
- (b) Functions of blood.
- (d) Regulation of arterial blood pressure.

Q 7. Write short note : (2 marks each)

- (a) Function of lever.
- (b) Temperature regulation.
- (c) Lung volume and capacity.



Time : 03 Hours

Max. Marks : 75

**Instructions :**

- ❖ The candidate must limit their answers to the answer book (60 pages) issued to them. No supplementary continuation answer sheet will be provided.
- ❖ Illustrate your answers with suitable diagrams, graphs and flow charts.
- ❖ Attempt Section A (MCQs) in OMR sheet and Section B & C in the answer sheet of 60 pages.
- ❖ OMR sheet shall be collected 15 minutes after starting of examination.

**(Section A)**

**Total-13 Marks**

**Q1. MCQ on Applied Anatomy & Applied Physiology)**

**(13x1 Mark=13)**

1.1. Mastoid process is bony extension of

- (a) Occipital bone
- (b) Frontal bone
- (c) Temporal bone
- (d) Sphenoid bone

1.2. What type of diet is indicated for a patient with colostomy for the first 4 to 6 weeks following the surgery?

- (a) High-protein
- (b) High-carbohydrate
- (c) Low-calorie
- (d) Low-residue

1.3. Action of parathormone in the human body

- (a) decreases blood sodium level
- (b) increases blood sodium level
- (c) decreases blood calcium level
- (d) increases blood calcium level

1.4. What is the fibrous membrane between the radius and ulna?

- (a) Synovial membrane
- (b) Interosseous membrane
- (c) Periosteum
- (d) Ligamentum teres

1.5. What is the functional units of the Kidneys?

- (a) Glomerulus
- (b) Renal pelvis
- (c) Nephron
- (d) Collecting duct

1.6. The oxygen and carbon dioxide crosses the plasma membrane by the process of

- (a) Active diffusion
- (b) Facilitated diffusion
- (c) Passive diffusion
- (d) Random diffusion

1.7. Which of the following laryngeal cartilages forms a complete ring around the airway?

- (a) Thyroid cartilage
- (b) Epiglottic cartilage
- (c) Arytenoid cartilage
- (d) Cricoid cartilage

1.8. The lymphatic system consists of all the following except:

- (a) blood
- (b) lymph nodes
- (c) lymphatic vessels
- (d) lymph



- 1.9. Which of the following is correct?  
 (a) Serum contains blood and fibrinogen  
 (b) Plasma is blood without lymphocytes  
 (c) Blood comprises plasma, RBC, WBC and platelets  
 (d) Lymph is plasma with RBC and WBC

1.10. Which of the following is Not a typical effect of hypothyroidism?

- (a) Dry skin  
 (b) Fatigue  
 (c) Increased heart rate  
 (d) Weight gain

1.11. Which part of the ear has no role to play in hearing but is very important

- (a) Ear ossicles

- (b) Organ of Corti  
 (c) Eustachian tube  
 (d) Vestibular apparatus

1.12. The kidneys are

- (a) Help regulate blood volume  
 (b) Help control blood pressure  
 (c) Help control PH.  
 (d) All of the above are correct.

1.13. The grey matter of the spinal cord is ---

- (a) Arranged in H form  
 (b) Has anterior and posterior horn cell  
 (c) Has central canal lined by ependymal cells  
 (d) All of the above

#### Section- B (Applied Anatomy)

Maximum Marks : 62

**Q1.** Define Membranes? Discuss the types of membranes and glands. [10.0]

**Q2.** Explain:- [15.0]

2.1. Draw a well labelled diagram of respiratory system. [5.0]

2.2. Coronary circulation [5.0]

2.3. Explain the organs of sensory system [5.0]

**Q3.** Define the following terms:- [6.0]

3.1. Columnar epithelium [2.0]

3.2. Mitral valve. [2.0]

3.3. Cartilage [2.0]

#### Section- C (Applied Physiology)

**Q4.** Define breathing and explain the functions of trachea. Draw the label diagram of trachea. [10.0]

**Q5.** Explain:- [15.0]

5.1. Explain functions of digestive system [5.0]

5.2. Explain about cardiac cycle [5.0]

5.3. Pancreas [5.0]

**Q6.** Define the following terms:- [6.0]

6.1. Adduction [2.0]

6.2. Function of skin [2.0]

6.3. Functions of autonomic nervous system [2.0]

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Paper Code-030201

B.Sc. Nursing 1<sup>st</sup> Semester Re-appear University Examination August, 2024

Subject-Applied Anatomy & Applied Physiology

Time Allowed: Three Hours

Maximum Marks:-75

Note:

- The candidates must limit their answers to the answer book (60 pages) issued to them. No supplementary Continuation answer sheet shall be provided.
- Illustrate your answers with suitable diagrams, graphs and flow charts.
- Attempt MCQs in OMR sheet and Section B in the answer sheet of 60 pages.
- OMR Sheets shall be collected 15 minutes after starting of Examination.

**Section – A (MCQ)**

**Total-13 Marks**

Q1. Parts of the body that are lying close to the midline are called :

- (a) Lateral
- (b) Medial
- (c) Deep
- (d) Distal

Q2. Which of the following is not a gland of oral cavity:

- (a) Parotid gland
- (b) Adrenal gland
- (c) Sub mandibular gland
- (d) Sub lingual gland

Q3. The balancing organ of ear is :

- (a) Organ of Cortii
- (b) Tectorial Membrane
- (c) Vestibular Apparatus
- (d) Cochlea

Q4. Cerebellum is a part of :

- (a) Hypothalamus
- (b) Mid Brain
- (c) Hind Brain
- (d) Spinal Cord

Q5. Which part of ovary act as an endocrine gland after ovulation?

- (a) Vitelline Membrane
- (b) Stroma
- (c) Graffian Follicle
- (d) Germinal Epithelium

Q6. Heart beat originates from:

- (a) Papillary Muscles
- (b) S.A Node
- (c) A.V Node
- (d) Purkinje fibres

Q7. The waterproof coating found on a Epidermal Cells is :

- (a) Myelin
- (b) Keratin
- (c) Melanin
- (d) Albumin

Q8. The basic structural framework of Plasma Membrane is:

- (a) The bilipid layer
- (b) The phospholipid layer
- (c) The glycoprotein layer
- (d) Cholesterol layer

Q9. The absorptive cells in small intestine are:

- (a) Micro Villi
- (b) villi
- (c) Lacteals
- (d) Surface epithelium

Q10. Haematocrit value is the ratio of:

- (a) WBC to Plasma
- (b) Platelets to Plasma
- (c) RBC's to Plasma
- (d) Total blood cells to Plasma

Paper Code-030201



Q11. The heat regulatory centre of the body is located at:

- (a) Medulla oblongata
- (b) Thalamus
- (c) Limbic system
- (d) Hypothalamus

Q13. The enzyme pepsin digests which dietary component?

- (a) Protein
- (b) Fat
- (c) Carbohydrate
- (d) Vitamins

Q12. Muscles get fatigued due to accumulation of:

- (a) Lactic acid
- (b) ATP
- (c) Phosphate molecules
- (d) CO<sub>2</sub>

**Section-B (Applied Anatomy)**

**Total-31 Marks**

Q1. Enumerate the parts of digestive tract. Explain the structure of small intestines in detail.

(1X10 Marks=10)

Q2. Short Question (briefly explain)

(3X5 Marks =15)

- (a) Haversian system of bones
- (b) Structures in the heart
- (c) Ventricles of brain

Q3. Very short Answer Questions:

(3X2 Marks=06)

- (a) Taste buds
- (b) Muscles of respiration
- (c) External ear

**Section – C (Applied Physiology)**

**Total- 31 Marks**

Q4. Explain the functions of Cerebrum. Describe the functional areas of Cerebrum with diagram.

(1X10 Marks=10)

Q5. Short Question:

(3X5 Marks =15)

- (a) Hormones regulating blood glucose levels.
- (b) Functions of kidney
- (c) Epithelial tissue

Q6. Very short Answer Questions:

(3X2 Marks=06)

- (a) Salivary glands
- (b) Pericardium
- (c) Pancreatic Secretion

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**Paper Code-030201**  
**B. Sc. Nursing 1<sup>st</sup> Semester University Examination**  
**Subject-Applied Anatomy & Applied Physiology**

**Time Allowed: Three Hours**

**Maximum Marks:-75**

**Note:**

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**Applied Anatomy – Section – A**

**Total-13 Marks**

**Q1. MCQs**

- |  |   |
|--|---|
| 1.1 Tissue connecting the bone to muscle is<br>a) Tendon<br>b) Ligament<br>c) Synovial Capsule<br>d) Cartilage                 | 1.6. Heart beat originates from the<br>a) Papillary muscles<br>b) SA node<br>c) AV node<br>d) Purkinje fibres                           |
| 1.2. The weight of the human body is mainly made up of?<br>a) Bones<br>b) Skin<br>c) Body parts<br>d) Water                    | 1.7 Which of the following organs is known as the “graveyard” of RBCs?<br>a) Spleen<br>b) Kidney<br>c) Liver<br>d) Gall bladder         |
| 1.3. The type of joints present in the Knee is<br>a) Pivot<br>b) Hinge<br>c) Saddle<br>d) Ball and Socket                      | 1.8. Following hormone helps in the secretion of HCL from stomach?<br>a) Gastrin<br>b) Secretin<br>c) Pepsin<br>d) Renin                |
| 1.4. Receptors for hearing are located in the<br>a) Cochlea<br>b) Semi-circular canals<br>c) Tympanic membrane<br>d) Vestibule | 1.9 Which of the following control breathing rate in humans?<br>a) Cerebellum<br>b) Hypothalamus<br>c) Thalamus<br>d) Medulla oblongata |
| 1.5. The number of metacarpal bones present in human hand is<br>a) 5<br>b) 7<br>c) 10<br>d) 24                                 | 1.10 Cholecystokinin stimulates _____<br>a) Pancreas<br>b) Stomach<br>c) Gall bladder<br>d) Kidneys                                     |



1.11 All of the following are hormones of the anterior pituitary gland **except**

- a) Human growth hormone
- b) Follicle-stimulating hormone
- c) Oxytocin
- d) Thyroid-stimulating hormone

1.12. This valve prevents backflow of blood from left ventricle to left atrium

- a) Aortic
- b) Pulmonic

- c) Tricuspid
- d) Bicuspid

1.13. Which of the following nerve transmits sensory information regarding smells to brain

- a) Oculomotor
- b) Olfactory
- c) Trigeminal
- d) Optic

### Section-B - Applied Anatomy

Total-31 Marks

**Q2.** Define endocrine gland. Enlist Endocrine Glands present in the Human Body. Discuss the anatomy of the Thyroid Gland. (2+3+5=10 Marks)

**Q3. Briefly explain:**

(3x5=15 Marks)

- a) Describe vermiform Appendix
- b) Make a diagram and briefly mention about parts of eye ball.
- c) Discuss structure of cell with the help of a labelled diagrams.

**Q4. Very short Answer Questions:**

(3x2=06 Marks)

- a) Enlist ear ossicles.
- b) Name the skull bones.
- c) Differentiate between Jejunum and Duodenum.

### Section – C - Applied Physiology

Total-31 Marks

**Q5.** Define joint. Enlist various types of joints present in the Human Body. Briefly discuss about the movements by various joints (2+3+5=10 Marks)

**Q6. Briefly explain:**

(3x5=15 Marks)

- a) Name plasma proteins. Mention their functions.
- b) Explain the stages of menstrual cycle.
- c) Draw a diagram representing Reflex arc. Enlist properties of Reflex arc.

**Q7. Very short Answer Questions:**

(3x2=06 Marks)

- a) What is the composition of gastric juice?
- b) Define Referred Pain.
- c) Differentiate between Active and Passive immunity.

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