



**ELEMENTARY CHEMISTRY
AND CHEMICAL
PATHOLOGY HSSC-I
SECTION - A (Marks 10)**

Time allowed: 10 Minutes

Section - A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دئے کرنا ہم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ لکھنے کی اجازت نہیں ہے۔ لید پنسل کا استعمال ممنوع ہے۔

Version No.			
3	4	0	1

ROLL NUMBER					

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6	6	6	6	6	6
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Answer Sheet No. _____

Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum:

Candidate Sign. _____

Question	A				B				C				D			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1. The symbolic representation of sodium element is:	K	Pb	S	Na	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The number of moles of solute dissolved per kilogram of solvent is called:	Formality	Normality	Molarity	Molality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Normal value of fasting blood sugar is:	100-130 mg/dl	70-110 mg/dl	70-110 g/dl	100-130 g/dl	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The branch of chemistry that deals with study of life is called:	Physical chemistry	Organic chemistry	Biochemistry	Nuclear chemistry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The substance that tends to maintain pH within specific range is called:	Acid	Buffer	Base	Indicator	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Which one of the following is fat soluble vitamin?	Pyridoxin	Cholecalciferol	Riboflavin	Cobalamin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. As the temperature increases, the solubility of solute in water will:	Increase	Decrease	Become zero	Remain unchanged	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The particle which revolves around the nucleus in an atom is called:	Proton	Electron	Neutron	Positron	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. The instrument which measures the amount of color is called:	pH meter	Viscometer	Densimeter	Photometer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Hypo Kalaemia means decreased level of:	Sodium	Calcium	Potassium	Chloride	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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ELEMENTARY CHEMISTRY AND CHEMICAL PATHOLOGY HSSC-I

Time allowed: 2:20 Hours

Total Marks Sections B and C: 40

NOTE: Answer any thirteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 26)

Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. (13 x 2= 26)

- (i) What is meant by physical chemistry?
- (ii) Classify mixtures based on composition.
- (iii) What is pH scale of acidity and basicity?
- (iv) What is glycolysis?
- (v) Enlist the cardiac enzymes.
- (vi) What is the clinical significance of serum uric acid?
- (vii) What is meant by molarity with formula?
- (viii) Enumerate the vitamins.
- (ix) Write down the significance of albumin in urine.
- (x) Classify the lipids.
- (xi) What is thymol turbidity test?
- (xii) What is the clinical significance of Na & K in the blood.
- (xiii) What are polysaccharides?
- (xiv) Describe the working principle of centrifuge.
- (xv) Describe the periodic table briefly.
- (xvi) Why is glucose termed as primary metabolic fuel for the body?
- (xvii) Differentiate between serum and plasma.

SECTION – C (Marks 14)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 7 = 14)

- Q. 3** What is Jaundice? Give its types and write principle of estimation of bilirubin. **(07)**
- Q. 4** Write down the principle procedure and normal values of serum uric acid. **(07)**
- Q. 5** Classify protein on the basis of its structure with example. **(07)**



**ELEMENTARY ANATOMY
AND MICROTECHNIQUES
HSSC-I**

SECTION – A (Marks 10)

Time allowed: 10 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

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Do not use lead pencil.

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کئے کی اجازت نہیں ہے۔ لید پنسل کا استعمال ممنوع ہے۔

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Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پر کریں۔ **Invigilator Sign.** _____

Fill the relevant bubble against each question according to curriculum: **Candidate Sign.** _____

Question	A	B	C	D	A	B	C	D
1. The part of an organ towards median plane is termed as:	Medial	Lateral	Anterior	Posterior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Which organ of the body contains vocal cords?	Larynx	Pharynx	Bronchi	Trachea	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The number of lobes present in right lung are:	1	2	3	4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Which hormone is secreted by kidneys?	Insulin	Testosterone	Erythropoietin	Progesterone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Sensory fibers of nervous system are called as:	Axons	Lymphatics	Ligaments	Dendrites	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Lateral bone of the leg is:	Radius	Fibula	Scapula	Patella	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The tissue taken from dead body is called:	Excision	Biopsy	Autopsy	Resection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Heart muscle is also called:	Myocardium	Endocardium	Epicardium	Pericardium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Clearing in tissue processing means:	Removal of water	Removal of Alcohol	Removal of wax	Removal of fixative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Mounting medium used in routine is:	Xylene balsam	DPX	Euparal	Canada Balsam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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ELEMENTARY ANATOMY AND MICROTECHNIQUES HSSC-I

Time allowed: 2:20 Hours

Total Marks Sections B and C: 40

NOTE: Answer any thirteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 26)

Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 5 lines. (13 x 2 = 26)

- (i) Write down names of body cavities.
- (ii) Briefly mention anatomical difference between right and left lung.
- (iii) What is peristalsis?
- (iv) Enumerate parts of small intestine.
- (v) Draw labelled diagram of nephron.
- (vi) How many types of neurons are present in human nervous system?
- (vii) Describe meninges.
- (viii) Name different parts of male reproductive system.
- (ix) How are eggs produced from ovaries?
- (x) Enumerate chief muscles of the upper limb.
- (xi) Briefly explain carpal bones.
- (xii) Discuss functions of pituitary gland.
- (xiii) How is bone different from cartilage?
- (xiv) Briefly explain gross examination.
- (xv) How is paraffin embedding performed?
- (xvi) What is trimming?
- (xvii) Why is it necessary to decalcify bone?

SECTION – C (Marks 14)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 7 = 14)

- Q. 3** How is blood circulated throughout the body? Explain role of organs involved in detail.
- Q. 4** Why is colouring of tissue necessary for examining it under microscope?
- Q. 5** Write notes on any two of the following:
 - a) Cerebellum
 - b) Pancreas
 - c) Tissue processing



MICROBIOLOGY HSSC-I
SECTION – A (Marks 10)

Time allowed: 10 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دئے کرنا ہرگز نہ حذف کر کے جواب دے کر لیں۔ کاٹ کر دیا
کٹنے کی اجازت نہیں ہے۔ سیاہ پینسل کا استعمال ممنوع ہے۔

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9	9	9	9	9	9

Answer Sheet No. _____

Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum:

Candidate Sign. _____

Question	A				B				C				D			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1. The magnifying power of an ocular lens of light microscope is:	100x	1000x	10000x	10x	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Macconkey's agar is an example of:	Indicator media	Basic media	Enriched media	Transport media	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The resolving power of light microscope is about:	10 nm	100 nm	200 nm	2000 nm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Which one of the following is the true example of enriched media?	Blood agar	Nutrient agar	Macconkey's agar	CLED agar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Capsule of the bacillus anthracis is composed of:	Monosaccharide	Disaccharide	Polypeptide	Mycolic Acid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Staphylococcus aureus can be differentiated from other staphylococci by:	Catalase test	Coagulase test	Oxidase test	DNase test	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Which one the following is an example of Gram Positive Rods?	Cl.tetani	E.coli	S.typhi	Neisseria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. All of the following are RNA enveloped viruses EXCEPT:	Influenza viruses	Rabies viruses	HIV	HBV	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Gram Iodine is used in gram stain as:	Primary stain	Secondary stain	Mordant	Decolorizing agent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Which one of the following requires ZN staining technique?	Bacillus species	Treponema pallidum	Mycobacterium TB	Pseudomonas aeruginosa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



MICROBIOLOGY HSSC-I

Time allowed: 2:20 Hours

Total Marks Sections B and C: 40

NOTE: Answer any thirteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 26)

Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. (13 x 2 = 26)

- (i) Name different types of culture media.
- (ii) Enlist different parts of microscope.
- (iii) What is the difference between magnification and resolution?
- (iv) What is meant by sterilization?
- (v) What is the difference between 'disinfection' and 'anti sepsis'?
- (vi) Name the pathogenic gram negative diplo-cocci.
- (vii) Write down the biochemical behaviour of staphylococci.
- (viii) What is a spore? Give two examples of spore forming bacteria.
- (ix) Briefly describe the tests involved in the diagnosis of viruses.
- (x) Briefly describe MIC and MBC.
- (xi) Which mechanisms are involved in development of anti-microbial resistance?
- (xii) Differentiate between Pathogen and Normal flora.
- (xiii) Enlist the cultural characteristics of Neisseria meningitides.
- (xiv) Name antigenic structures of Staphylococci.
- (xv) Write down lab diagnosis of Salmonella typhi.
- (xvi) Write a brief note on corona virus.
- (xvii) State the principle of gram stain.

SECTION – C (Marks 14)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 7 = 14)

- Q. 3 What is an antimicrobial sensitivity testing? Discuss in detail. (07)
- Q. 4 Describe the morphological features, pathogenicity and lab diagnosis of streptococcus pyogenes. (07)
- Q. 5 Explain any three of the following: (07)
- | | |
|-----------------|---------------|
| (a) HIV | (b) Measles |
| (c) Polio virus | (d) Influenza |



**DENTAL HYGIENE HSSC-I
SECTION – A (Marks 20)**

Time allowed: 25 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

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گھسنے کی اجازت نہیں ہے۔ لید پنسل کا استعمال ممنوع ہے۔

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Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کرکولم کے مطابق درست دائرہ کو پر کریں۔
Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum:

Candidate Sign. _____

Question	A				B				C				D			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1. Which layer of epithelium is also called "prickle cell layer"?	Stratum corneum	Stratum granulosum	Stratum spinosum	Stratum basale	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Pavement epithelium consists of a single layer of:	Flattened cells	Cuboidal cells	Ciliated cells	Fat cells	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Bone is a type of:	Epithelium	Connective tissue	Nerve	Muscle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Which of the following is NOT a part of the circulatory system?	Blood	Nerves	Blood vessels	Heart	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Carbon dioxide is mainly excreted from the human body through:	Urine	Lungs	Kidneys	Skin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Heart rate is controlled by:	Sinuatrial node	Left atrium	Right atrium	Tricuspid valve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The walls of an artery consists of _____ layers.	2	3	4	6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Plasma consists of _____ water.	50%	75%	90%	100%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Which of the following is NOT a type of cells found in the blood?	Red blood cells	White blood cells	Platelets	Albumin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Which of the following cells is involved in the clotting process?	Granulocytes	Thrombocytes	Lymphocytes	Plasma cells	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Alimentary canal is a part of the:	Nervous system	Respiratory system	Digestive system	Musculoskeletal system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Which of the following is NOT an endocrine gland?	Parotid gland	Parathyroid gland	Thyroid gland	Adrenal gland	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Which of the following bones does NOT form the cranium?	Frontal bone	Temporal bone	Parietal bone	Mandible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Which of the following is NOT a process of the maxilla?	Zygomatic process	Palatine process	Mandibular process	Frontal process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Which of the following is NOT a salivary gland?	Parotid gland	Submandibular gland	Sublingual gland	Thyroid gland	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Trigeminal nerve is the _____ cranial nerve.	3 rd	5 th	7 th	15 th	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. In the FDI system, upper left 2 nd premolar is designated as:	15	25	27	45	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. The surface of a tooth towards the lips is known as:	Occlusal surface	Lingual surface	Mesial surface	Labial surface	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. "Amelogenesis" is a term used for:	Enamel formation	Cementum formation	Dentin formation	Pulp Formation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Which of the following does NOT contain incremental lines?	Enamel	Dentin	Cementum	Pulp	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

—1HA-II 2343—

82



DENTAL HYGIENE HSSC-I

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: Answer any ten parts from Section 'B' and any three questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q. 2 Answer any TEN parts. The answer to each part should not exceed 2 to 4 lines. (10 x 5 = 50)

- (i) Name the layers of keratinized stratified squamous epithelium.
- (ii) Describe the three types of muscles briefly.
- (iii) Write a short note on the function of platelets.
- (iv) Name the parts of the human heart.
- (v) Write a short note on the endocrine function of pituitary gland.
- (vi) Which bones form the cranium? Write names.
- (vii) Name the extrinsic muscles of the tongue.
- (viii) Write a short note on the temporal muscle.
- (ix) Write a short note on the 'boiling water sterilizer'.
- (x) Draw and label a diagram of the parts of a tooth.
- (xi) What is meant by the term "dental lamina"?
- (xii) State the chemical composition of dentin.
- (xiii) What is "passive eruption" of the teeth?
- (xiv) Name the branches of the maxillary nerve.
- (xv) Give different types of immunity.

SECTION – C (Marks 30)

Note: Attempt any THREE questions. All questions carry equal marks. (3 x 10 = 30)

- Q. 3** Discuss syncope and its management.
- Q. 4** Explain muscles of mastication in detail.
- Q. 5** Discuss the mandibular branch of trigeminal nerve in detail.
- Q. 6** Write a detailed note on Dentingogenesis.
- Q. 7** What are the functions of saliva?



OPERATION THEATRE TECHNIQUES HSSC-I SECTION - A (Marks 20)

Time allowed: 25 Minutes

Section - A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات ہی منظر پر دے کر نام نمونہ کے حوالے کریں۔ کاپی کر رہا ہوں
گیٹے کی اجازت نہیں ہے۔ لیسڈ پینسل کا استعمال ممنوع ہے۔

Version No.			
3	4	5	1

ROLL NUMBER					

- ① ① ① ①
② ② ② ②
③ ③ ③ ③
④ ④ ④ ④
⑤ ⑤ ⑤ ⑤
⑥ ⑥ ⑥ ⑥
⑦ ⑦ ⑦ ⑦
⑧ ⑧ ⑧ ⑧
⑨ ⑨ ⑨ ⑨

- ① ① ① ① ① ①
② ② ② ② ② ②
③ ③ ③ ③ ③ ③
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⑥ ⑥ ⑥ ⑥ ⑥ ⑥
⑦ ⑦ ⑦ ⑦ ⑦ ⑦
⑧ ⑧ ⑧ ⑧ ⑧ ⑧
⑨ ⑨ ⑨ ⑨ ⑨ ⑨

Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پر کریں۔ Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum: Candidate Sign. _____

Question	A	B	C	D	A	B	C	D
1. Detergents used as disinfectants are:	Pathogens	Surface-active agents	Viruses	E Coli	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Which bacteria is the most common cause of surgical site infection?	E-coli	Clostridium	Neisseria Gonorrhoea	Staphylococcus Aurous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The normal RBC life in circulation is approximately:	Two weeks	Three weeks	One month	120 days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Which infusion is used commonly in a patient with severe diarrhoea?	5% Dextrose water	10% Dextrose water	Ringer lactate	Blood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Which statement is TRUE about Rickettsia?	They are true bacteria	They are true virus	Cause of trachoma	Transmitted by insect bite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Which type of blood transfusion is best for correction of chronic Anaemia?	Packed cell	Whole blood	Plasma	Fresh frozen plasma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. A very cold operation theatre of paediatric unit will cause following in children undergoing surgery.	Hypothermia	Hypoglycaemia	CVA	DVT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Following organism is prokaryotic:	Fungi	Bacteria	Protozoa	Paramecium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. The cell wall is outermost component of all bacteria EXCEPT:	Staphylococcus	Streptococcus	E-Coli	Mycoplasma	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Which of the following organism does not cause disease in human?	Fungi	Bacteria	Helminthes	Entamoeba Coli	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Pulse oximetre is applied on the:	Head of the patient	Femoral pulse of the patient	Arm of the patient	Finger tip of the patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Sterilization will kill all EXCEPT:	Hard bacterial spores	Bacterial cell wall	Viruses	Bacteria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Gram positive bacteria stain:	Purple	Pink	Black	Blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Which of the following is a viral disease?	Diphtheria	Tetanus	Malaria	Poliomyelitis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Fibre optic Endoscope will be sterilized by:	Head sterilization	Autoclave	Chemical sterilization	Any of the above method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. H. Influenza is:	Gram Negative Rod	Gram Negative Cocci	Gram Positive Rod	Gram Positive Cocci	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Following equipment is used in monitoring of patient during surgery:	Diathermy machine	Defibrillator	Cardiac monitor	Suction tube	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Following bacteria cannot be seen by Gram stain:	Mycobacterium tuberculosis	Proteus	E. Coli	Staphylococci	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Which of the disease needs vaccination?	Measles only	Tetanus only	Both Measles & Tetanus	Cancer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Autoclave uses _____ for sterilization.	Boiled water	Radiation	Steam	Vibration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

—1HA-II 2345—



OPERATION THEATRE TECHNIQUES HSSC-I

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: Answer any twenty-five parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q. 2 Answer any TWENTY-FIVE parts. The answer to each part should not exceed 2 to 4 lines. (25 x 2 = 50)

- (i) What are endotoxins? Give its features.
- (ii) Write down the commonly used infusions.
- (iii) What is normal flora? Name normal skin flora.
- (iv) What is nosocomial infection? List some of them.
- (v) What are the uses of Ellis forceps?
- (vi) What are the different types of joints? Name them.
- (vii) Name four Bacteria causing pneumonia.
- (viii) What is the meaning of Anti-coagulant?
- (ix) What are antibiotics and for which microorganisms are they prescribed?
- (x) Classify viruses.
- (xi) Give moist heat methods of sterilization and their uses.
- (xii) What is yeast? How does it reproduce?
- (xiii) What is suction machine? What is its purpose?
- (xiv) Classify Cocci bacteria.
- (xv) What is parasite?
- (xvi) Write down the names of three bacteria producing spores.
- (xvii) Name four bacteria causing respiratory tract infection?
- (xviii) Name two bacteria causing Meningitis.
- (xix) Write down four feature of mycobacterium tuberculosis.
- (xx) Give two examples of Gram positive rods.
- (xxi) Write down the properties of Hepatitis B virus.
- (xxii) Write four disease caused by protozoa.
- (xxiii) Name two bacteria commonly causing Diarrhoea.
- (xxiv) What is meant by draping?
- (xxv) Name two disease caused by Rickettsiae.
- (xxvi) What is clinical importance of capsule of Bacteria?
- (xxvii) What is povidine iodine solution?
- (xxviii) How Hepatitis 'B' spreads?
- (xxix) Name four parts of Anaesthesia machine.
- (xxx) Write a short note on gas gangrene.
- (xxxi) Name four disease caused by viruses.

SECTION – C (Marks 30)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 15 = 30)

- Q. 3** What is diathermy? Describe its types, subtypes, uses and complication.
- Q. 4** Define clostridium tetani? Describe its Pathogenicity, disease, prevention and treatment.
- Q. 5** Define sterilization. Discuss various chemical agents used for sterilization.



OPHTHALMIC TECHNIQUES HSSC-I SECTION – A (Marks 20)

Time allowed: 25 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent. Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی مطوطہ پر دئے کرنا ہم مرکز کے حوالے کریں۔ گات کر دیا نہ
لکھنے کی اجازت نہیں ہے۔ لید پنسل کا استعمال ممنوع ہے۔

Version No.			
3	4	6	1

ROLL NUMBER					

0	0	0	0
1	1	1	●
2	2	2	2
●	3	3	3
4	●	4	4
5	5	5	5
6	6	●	6
7	7	7	7
8	8	8	8
9	9	9	9

0	0	0	0	0	0
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پر کریں۔ Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum: Candidate Sign. _____

Question	Candidate Sign.							
	A	B	C	D				
1. Junction of sclera and cornea is known as:	Angle of AC	Ciliary Body	Pupil	Limbus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Tarsal plate is situated in:	Eye brow	Eye lid	Cornea	Lens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Corneal thickness is measured by:	Keratometer	Pachymeter	Vernier Scale	Airpuff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Distant vision is recorded at a distance of:	1m	3m	4m	6m	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. There are _____ types of refractive error.	5	2	3	4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Biconvex lens is used in all EXCEPT:	Aphakia	Presbyopia	Astigmatism	Hyperopia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Deficiency of vit A can cause all EXCEPT:	Xerosis	Keratomalacia	Night blindness	Keratitis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Thickness of sclera is:	0.5mm	1mm	0.1mm	2mm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. The average of diameter of cornea:	11 – 12 mm	13 – 14mm	09 – 10mm	05 – 07mm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Refractive index of cornea is:	1.38	1.35	1.33	1.30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Any opacity in the lens or its capsule is called:	Glaucoma	Cataract	RD	RP	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. There are _____ parts of natural lens.	2	4	3	5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. After cataract surgery lenses are prescribed in:	2 weeks	4 weeks	6 weeks	12 weeks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Retina after death becomes:	Transparent	White	Black	Red	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. The optic nerve extends up to:	Optic Chiasma	Optic tract	Ciliary body	Optic radiation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Exophoria is common in:	Myopia	Hyper metropia	Aphakia	Presbyopia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Tears are produced in the new born after:	1 week	2 weeks	3 weeks	4 weeks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Lamina cibrosa is present in:	Choroid	Ciliary body	Sclera	Retina	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Blepharitis is present in:	Eye brow	Eye lid	Lacrimal Apparatus	Conjunctiva	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. The avascular structure of eye is:	Choroid	Lens	Conjunctiva	Ciliary body	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

—1HA-II 2346—



OPHTHALMIC TECHNIQUES HSSC-I

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE:- Answer any twenty five parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q. 2 Attempt any TWENTY FIVE parts. The answer to each part should not exceed 2 to 4 lines. (25 x 2 = 50)

- (i) Enlist the names of parts in anterior structure of eye. (Any four)
- (ii) Write the names of 3rd and 4th cranial nerve.
- (iii) How many types of visual perception are there?
- (iv) Draw and label the diagram of visual pathway.
- (v) Write the types of hemianopia.
- (vi) What is amblyopia?
- (vii) Write the ocular causes of headache.
- (viii) State the types of tonometer.
- (ix) Write the steps of visual acuity while using of snellen's chart.
- (x) What is nodal point?
- (xi) Enlist the signs of myopia.
- (xii) What is the treatment of myopia?
- (xiii) How many types of total hypermetropia are there?
- (xiv) Write the symptoms of hypermetropia.
- (xv) What is meant by Aphakia?
- (xvi) What is Anisometropia?
- (xvii) Give the signs of presbyopia.
- (xviii) State the advantages of LASIK.
- (xix) How many layers of conjunctiva are there?
- (xx) What is the incidence of Ophthalmic Neonatorum?
- (xxi) Briefly explain the transmission of Rickettsia.
- (xxii) What is trachoma?
- (xxiii) Give the WHO grading of xerophthalmia.
- (xxiv) How many layers of cornea are there?
- (xxv) How can an ocular disease be prevented?
- (xxvi) Enlist the parts of natural lens.
- (xxvii) How is a corneal foreign body removed?
- (xxviii) Briefly explain congenital cataract.
- (xxix) Write the common causes of gradual loss of vision.
- (xxx) Give classification of glaucoma.
- (xxxi) Write the functions of retina.

SECTION – C (Marks 30)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 15 = 30)

- Q. 3** Write a detailed note on lesion of visual pathway.
- Q. 4** How is the examination of eye conducted? Write in detail.
- Q. 5** Describe presbyopia. Write its sign symptoms and treatment.



Version No.			
3	4	7	1

ROLL NUMBER					

0	0	0	0	0	0
1	1	1	●	1	1
2	2	2	2	2	2
●	3	3	3	3	3
4	●	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	●	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9

PHYSIOTHERAPY TECHNIQUES HSSC-I SECTION – A (Marks 20)

Time allowed: 25 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.
Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر نام ہرگز کے حوالے کریں۔ کاٹ کر دوبارہ لکھنے کی اجازت نہیں ہے۔ لیڈ پنسل کا استعمال ممنوع ہے۔

Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پر کریں۔
Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum:

Candidate Sign. _____

Question	Candidate Sign.			
	A	B	C	D
1. Frequency of sinusoidal current is:	50-100 Hz	100-200 Hz	50-120 Hz	500 to 5000 Hz
2. The conversion of an alternating current to direct current is termed as:	Amplitude	Rectification	Triode	Magnetism
Sun is the major source of:	Infra-red radiations	Short wave diathermy	Sinusoidal current	Direct current
Wave length of Infra-red radiations is:	450nm to 700000nm	4500nm to 7000 nm	750nm to 400000nm	7000nm to 400000nm
While performing ultra-sonic therapy in water bath method:	Wax is used	Gel is used	Water is used	Honey is used
Wavelength of short wave diathermy is:	11 meters	20 meters	12 meters	15 meters
Co-planar positioning of electrodes in short wave diathermy is also called:	Deep placement method of electrodes	Parallel placement method of electrodes	Monopolar method	Cross fire method
8. Ultrasound therapy is classified as a:	Superficial heating modality	Deep heating modality	Magnetic therapy	Intermittent therapy
9. It is the formation of tiny gas bubbles in the tissues during treatment with ultrasound:	Cavitation	Micro massage	Standing waves	Acousting streaming
10. Frequency of interferential current is:	400 Hz	4000 Hz	40 Hz	40000 Hz
11. It is the process by which an atom or a molecule acquires a negative or positive charge by gaining or losing electrons:	Ionization	Atomization	Polarization	Calcification
12. The process of increasing the volume of sound, especially using an amplifier is termed as:	Rectification	Resistance	Magnetism	Amplification
13. Bursitis is:	Inflammation of bursa	Inflammation of heart	Inflammation of bone	Inflammation of brain
14. It is used to stimulate the repair of soft tissues injuries and to relieve pain:	Coupling media	Transducer	Ultrasound therapy	Connective tissues
15. Orbicularis oculi is the muscle and its motor point is on:	Arm	Face	Leg	Thigh
16. It is a stage of unconsciousness which could be due to many causes:	Burn	Injury	Shock	Wound
17. The ability or capacity to do something or act in a particular way:	Power	Isotopes	Capacitance	Diode
18. The amount of current passing through a conductor is directly proportional to the potential difference, provided the temperature and physical state of the conductor does not change.	Ohm's law	Charles' law	Boyle's law	Newton's law
It is an evenly alternating sine wave low frequency current:	Interferential current	Galvanic current	Sinusoidal current	Faradic current
A force that tends to cause rotation is termed as:	Speed	Torque	Velocity	Momentum



PHYSIOTHERAPY TECHNIQUES HSSC-I

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: Answer any ten parts from Section 'B' and any three questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q. 2 Answer any TEN parts. The answer to each part should not exceed 2 to 5 lines. (10 x 5 = 50)

- (i) Briefly describe electric shock.
- (ii) Describe about the structure of an atom briefly.
- (iii) State Ohm's law.
- (iv) Give some details about amplification.
- (v) Differentiate between luminous generators and non-luminous generators.
- (vi) Write down five motor points of legs' muscles.
- (vii) What are mechanical effects of ultrasound? Explain anyone of them.
- (viii) Which method can be used for testing of apparatus of ultrasound?
- (ix) Explain transformer theory.
- (x) Describe interferential current. Write down names of electrodes used during treatment.
- (xi) Briefly explain the following terms:
 - (a) Force
 - (b) Tensile force
 - (c) Compressive force
- (xii) What is sinusoidal current? What are its contraindications?
- (xiii) Write down any five names of motor points of facial muscles.
- (xiv) What are the physiological effects of Galvanic current?
- (xv) Briefly explain Diode and Triode.

SECTION – C (Marks 30)

Note: Attempt any THREE questions. All questions carry equal marks. (3 x 10 = 30)

- Q. 3 What are doses of Infra-red radiations in acute and chronic inflammation? Describe therapeutic effects and dangers of Infra-red radiations.
- Q. 4 Describe physiological effects of short wave diathermy. Explain cable method as well.
- Q. 5 What is TENS? What are its types and indications? Give detail.
- Q. 6 Explain rectification.
- Q. 7 Describe the following terms:
 - (a) Isotopes
 - (b) Power
 - (c) Magnetism
 - (d) Amplification and force



**BASIC MEDICAL
SCIENCES HSSC-I
SECTION – A (Marks 10)**

Time allowed: 10 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دئے کرنا تخم مرکز کے حوالے کریں۔ کاٹ کر دوبارہ
لکھنے کی اجازت نہیں ہے۔ ایڈ پنسل کا استعمال ممنوع ہے۔

Version No.			
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Answer Sheet No. _____

Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum:

Candidate Sign. _____

Question	A	B	C	D	A	B	C	D
1. The first vertebrae is called:	Sternum	Ribs	Atlas	Scapula	○	○	○	○
2. Normal stroke volume is:	120 ml	60 ml	70 ml	120 liter	○	○	○	○
3. The outer covering of lungs is called:	Plura	Base	Bronchi	Alveoli	○	○	○	○
4. The other name of trachea is:	Food pipe	AV node	SA node	Wind pipe	○	○	○	○
5. How much saliva is produced daily?	2 liters	1.5 liters	1 liter	2.5 liters	○	○	○	○
6. The name of 3 rd cranial nerve is:	Oculomotor	Optic	Facial	Vagus	○	○	○	○
7. The life span of RBC is:	120 days	150 days	170 days	140 days	○	○	○	○
8. How many layers of heart are there?	5	2	3	4	○	○	○	○
9. Inner most layer of heart is:	Myocardium	Pericardium	Endocardium	Mediastinum	○	○	○	○
10. Cornea consists of _____ layers.	2	3	4	5	○	○	○	○

—1HA-II 2348—



BASIC MEDICAL SCIENCES HSSC-I

90

Time allowed: 2:20 Hours

Total Marks Sections B and C: 40

NOTE: Answer any thirteen parts from Section 'B' and all the questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 26)

Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. (13 x 2= 26)

- (i) What is sesamoid bone? Give example.
- (ii) Name the muscle and mucosal epithelium of urinary bladder.
- (iii) Enlist the hormones produced by liver. State the function of liver as well.
- (iv) Write name of the structure of skull.
- (v) Discuss the difference between the true and false ribs.
- (vi) What is the other name of Loop of Henle?
- (vii) Enlist the hormones produced by adrenal gland.
- (viii) Write down the parts of brain.
- (ix) Write the layers of eye.
- (x) State the functions of large intestine.
- (xi) Enumerate the parts of ear.
- (xii) Write down the composition of saliva.
- (xiii) What is GFR? Write its normal value.
- (xiv) Write down the function of skin.
- (xv) Name the water soluble and fat soluble vitamins.
- (xvi) Write the name of three main parts of Aorta.
- (xvii) Describe the plasma protein briefly.

SECTION – C (Marks 14)

Note: Attempt ALL the questions. All questions carry equal marks.

(2 x 7 = 14)

Q. 3 Write a detailed note on Blood

OR

Write the cycle of breathing.

Q. 4 Discuss the stomach. Write its walls and function.

OR

Briefly discuss each of the following:

- | | | |
|------------------|-------------------|------------------|
| a. Heart sound | b. Cardiac output | c. Stroke volume |
| d. Cardiac cycle | e. Blood pressure | |



APPLIED SCIENCES HSSC-I

SECTION – A (Marks 10)

Time allowed: 10 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی صفحہ پر دے کر نام مرکز کے حوالے کریں۔ کاٹ کر روپاں
کھینچنے کی اجازت نہیں ہے۔ سیاہ پینسل کا استعمال ممنوع ہے۔

Version No.			
3	4	9	1

ROLL NUMBER					

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Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کرکولم کے مطابق درست دائرہ کو پر کریں۔
Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum:

Candidate Sign. _____

	Question					Candidate Sign.			
		A	B	C	D	A	B	C	D
1.	According to Newton's second law, for every action there is:	No reaction	An equal and opposite reaction	Zero reaction	A smaller reaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	Energy due to position of the body is called:	Nuclear energy	Mechanical energy	Kinetic energy	Potential energy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	Which of the following is called as Charles' law?	Volume and Kelvin temperature are directly proportional	Volume and Kelvin temperature are inversely proportional	Pressure and Kelvin temperature are directly proportional	Pressure and Kelvin temperature are inversely proportional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	Nucleus has positive charge on it due to:	Electron	Proton	Neutron	Positron	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	_____ is known as war gas.	Sulphur gas	Nitrogen gas	Chlorine gas	Hydrogen gas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	Which of the following has property of ionization?	Microwave	Infrared rays	Sound waves	X-rays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	Which of the following has sour taste?	Acids	Bases	Salts	<i>NaoH</i>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	What is the normal body temperature of a healthy person?	98.2°C	98.6°C	37°F	37°C	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	Correct formula of Glucose is:	$C_{21}H_{22}O_{12}$	$C_6H_{22}O_{16}$	$C_6H_{22}O_6$	$C_{12}H_{22}O_{11}$	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	Conversion of liquid to gas (or vapour) is called as:	Vaporization	Condensation	Sublimation	Solidification	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



APPLIED SCIENCES HSSC-I

Time allowed: 2:20 Hours

Total Marks Sections B and C: 40

NOTE: Answer any thirteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION - B (Marks 26)

Q. 2 Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. (13 x 2 = 26)

- (i) Briefly explain 'velocity ratio' and 'efficiency'.
- (ii) Write down the formula for finding number of neutrons with the help of atomic number and mass number.
- (iii) What are three types of levers? Given example for each.
- (iv) Briefly explain atomicity and isotopes with example.
- (v) Differentiate between diffusion and osmosis.
- (vi) Write a short note on Halogen family.
- (vii) State Charles' and Gay-Lussac's law.
- (viii) What is power? Write its formula and SI unit.
- (ix) What are three modes of heat transfer?
- (x) State Newton's first law.
- (xi) What is hydrolysis? Briefly explain with examples.
- (xii) What are two clinical applications of gravity?
- (xiii) What is meant by ionization and excitation?
- (xiv) Differentiate between electrolytes and non- electrolytes.
- (xv) What is the common name of $NaHCO_3$? Write its two uses.
- (xvi) Briefly explain oxidation reduction reactions with example.
- (xvii) What are emulsifying agents? Give three examples.

SECTION - C (Marks 14)

Note: Attempt any TWO questions. All questions carry equal marks.

(2 x 7 = 14)

- Q. 3 What is friction? Write advantages and disadvantages of friction.
- Q. 4 a. Write difference between Acids and Bases.
b. Why are salts important in the human body?
- Q. 5 What are saturated and unsaturated hydro carbons? Give at least two examples for each.



RADIOGRAPHIC TECHNIQUES HSSC-I SECTION - A (Marks 20)

Time allowed: 25 Minutes

Section - A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی طور پر دے کر نام مرنے کے حوالے کریں۔ کاپی کر دہانہ
گیٹے کی اجازت نہیں ہے۔ سپیڈ پنسل کا استعمال ممنوع ہے۔

Version No.			
3	5	0	1

ROLL NUMBER					

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9	9	9	9	9	9

Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پر کریں۔
Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum: Candidate Sign. _____

Question	A				B				C				D			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
1. Which of the following is unit of inductance?	Ohm	Henry	Ampere	Webbers/meter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. What is the working principle of a transformer?	Self-Induction	Coulomb's law	Mutual Induction	Thermionic emission	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Which of the following does not allow the current to flow through it?	Calcium	Iron	Copper	Rubber	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Which of the following units is used to measure biologic effects of radiation?	Rad	Rem	Roentgen	Curie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Which of the following is the definition of potential difference?	Flow of electron	Work done on electron to bring it from infinity to a point	Work done on an electron to bring it from one point to another point	Flow of negative charges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Which of the following is an example of non-ohmic devices?	Resistance	Bulb	Fan	Semi-conductor diode	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. In which of the following circuits does the current remain the same in all the resistances?	Parallel circuit	Series circuit	Short circuit	Open circuit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Which of the following corresponds to the rate of doing work?	Joule/sec	Joule/watt	Watt/second	Sec/Joule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. What is ohm's law?	A relation between voltage and time	A relation between time and current	A relation among voltages, current and resistance	A relationship between temperature and current	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Which of the following is symbol of resistivity?	α (alpha)	β (beta)	ζ (Rho)	Ω (omega)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Which of the following decreases with increase in frequency?	Wavelength	Time period	Wavelength & Time period	Resistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Which of the following is working principle of X-ray tube?	Ohm's law	Coulomb's law	Space charge	Thermionic emission	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. The maximum number of electrons which can be accommodated in M-shell of an atom is:	6	8	32	18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Electric power is defined as:	$P = VI$	$P = RI$	$P = \frac{I}{V}$	$P = \frac{V}{R}$	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. The X-ray intensity is lower on the anode side of the tube because of the:	Line focus principle	Heel effect	Focusing cup	Filament	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Ionizing electromagnetic energy that is emitted from the nucleus of radioactive atom:	X-rays	Alpha particles	Beta particles	Gamma rays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. The unit of measure that is same for all systems of measure is the:	Calorie	Second	Kilogram	Meter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. In Einstein's equation $E=mc^2$, c stands for which of the following?	Force	Speed of light	Mass-energy equivalence	Mass of light	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Collimation and filtration do which of the following?	Reduce patient dose	Reduce exposure time	Result in patient discomfort	Increase patient dose	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Isotopes are atoms:	In the same molecule	Of the same element	That are ions	With the same number of nucleon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



RADIOGRAPHIC TECHNIQUES HSSC-I

94

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: Answer any ten parts from Section 'B' and any three questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q. 2 Answer any TEN parts. The answer to each part should not exceed 2 to 4 lines. (10 x 5 = 50)

- (i) What does the term 'Radiographic Technique' mean?
- (ii) What are the three functions the anode serves in an X-ray tube?
- (iii) State ohm's law.
- (iv) Describe electromagnetic induction.
- (v) What are three main components of an X-ray imaging system?
- (vi) What are three common units for radiation measurement?
- (vii) Briefly explain attenuation.
- (viii) What is mutual induction? Which machine works on the principle of mutual induction?
- (ix) Differentiate between AC and DC.
- (x) Write working principle of diode. Draw the symbol of diode as well.
- (xi) What is a transformer? Explain and draw diagram.
- (xii) What is radiation? Enlist its type and explain one of them.
- (xiii) Describe three principles of radiation protection.
- (xiv) Write names of five important components of operating console.
- (xv) Write the inverse square law with its formula. Describe the condition where it is applicable.

SECTION – C (Marks 30)

Note: Attempt any THREE questions. All questions carry equal marks. (3 x 10 = 30)

- Q. 3 Write a detailed note on Atomic structure.
- Q. 4 Discuss the principle, construction and working of an alternating current generator.
- Q. 5
 - a. What is film? Enlist types of film.
 - b. Explain three basic steps of X-ray film processing.
- Q. 6 Derive relation for the specific resistance using four laws of resistance.
- Q. 7 Write down five properties and five uses of x-rays.



**CARDIOVASCULAR
TECHNOLOGY HSSC-I
SECTION – A (Marks 20)**

Time allowed: 25 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے۔ اس کے جوابات اسی مطبوعہ کے مرکز کے حوالے کریں۔ کات کر وہاں لکھنے کی اجازت نہیں ہے۔ سید بخشل کا استعمال ممنوع ہے۔

Version No.			
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ROLL NUMBER					

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Answer Sheet No. _____

ہر سوال کے سامنے دیے گئے، کریکولم کے مطابق درست دائرہ کو پر کریں۔ **Invigilator Sign.** _____

Fill the relevant bubble against each question according to curriculum: **Candidate Sign.** _____

Question	Candidate Sign.							
	A	B	C	D				
1. The blood vessels with venous blood proceeding from right ventricle to the lungs are the:	Vena Cava	Aorta	Pulmonary veins	Pulmonary arteries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The cardiac muscle of the heart is:	Myocardium	Pericardium	Epicardium	Endocardium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The brain controls the heart rate by sending neural messages to the sinoatrial node which is located in the:	Left ventricle	Left atrium	Right atrium	Right ventricle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The ECG is a test used for all EXCEPT:	Measure time of each part of cardiac cycle	Detect some abnormalities in blood supply of heart	Calculate the heart rate	To measure pumping of heart	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Using which information can the amount of blood ejected from left ventricle over a minute be calculated?	Stroke volume and circulatory blood volume	Heart rate and the fluid volume drunk in the day	Circulating blood volume and the fluid volume drunk in the day	Stroke volume and heart rate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The blood pressure can be measured by using a:	Sphygmomano-meter	Spirometer	Barometer	Thermometer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. What is full form of ECG?	Eelectricity cardiac group	Electrocardio group	Eelectro-cardium granules	Eelectro-cardio gram	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Which of the following waves represent the excitation of the Atria?	P-wave	QRS complex	T-Wave	St-segment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Which of the following muscles have the longest refractive period?	Skeletal muscles	Smooth muscles	Cardiac muscles	Facial muscles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. What is meant by iso-volumetric systole?	The time duration between the closing and opening of AV valves.	The time duration between the closing and opening of semilunar valves	The time duration between the closing AV valves and opening of semilunar valves	The time duration between the closing of semilunar valves and the opening of AV valves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Question	A	B	C	D	A	B	C	D
11. The outer protective covering of heart is:	Myocardium	Epicardium	Endocardium	Pleura	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. The first branch of human aorta is:	Left sub-clavian artery	Branchio cephalic artery	Coronary artery	Left common carotid artery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. First heart sound is produced due to:	Closure of pulmonic valve	Closure of both A.V. valves	Closure of aortic valves	Closure of both aortic and pulmonic valves	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Ideal mean Blood pressure is:	140/90 mmHg	120/80 mmHg	110/70 mmHg	130/98 mmHg	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. From SVC and IVC blood enters in:	Right ventricle	Left ventricle	Right atrium	Left atrium	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Tachycardia is _____ heart rate.	70-90 bpm	60-100 bpm	≤ 60 bpm	> 100 bpm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Normal cardiac cycle takes _____ seconds to complete.	0.1	0.01	0.8	0.08	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Aorta pierces the diaphragm at the level of:	T-8	T-12	T-10	C-6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. The ventricular repolarization in ECG is best seen in:	P-wave	Q-wave	R-wave	T-wave	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Stroke volume of heart in healthy normal adult is:	30ml	130ml	70ml	5 liters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

—1HA-II 2359—

ROLL NUMBER					



CARDIOVASCULAR TECHNOLOGY HSSC-I

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: Answer any twenty-five parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q. 2 Answer any TWENTY-FIVE parts. The answer to each part should not exceed 2 to 4 lines. (25 x 2 = 50)

- (i) What is Coronary circulation?
- (ii) What are the two types of cardiac muscle cells in the myocardium? Write the difference between them.
- (iii) What are blood vessels? Name three major types of blood vessels.
- (iv) What are Papillary muscles in heart?
- (v) What is pulse? Write its types.
- (vi) Enlist parts of conducting system of heart.
- (vii) Which chambers of heart receive blood?
- (viii) Briefly explain sinus rhythm.
- (ix) What is meant by venous return?
- (x) Name the vessel that carry oxygenated blood back to the left atrium of heart.
- (xi) Which chamber of the heart discharges the blood into systemic circulation.
- (xii) Briefly discuss first heart sound.
- (xiii) What part of ECG represents ventricular muscular contraction?
- (xiv) What do Depolarization and Repolarization initiate in different chambers of the heart?
- (xv) What changes are specifically seen in ECG in Myocardial infarction?
- (xvi) Name chambers of heart.
- (xvii) What is the difference between right and left heart?
- (xviii) What is meant by Brady-cardia?
- (xix) What is meant by Arterial Blood Pressure? Write its normal value.
- (xx) Write the properties of cardiac muscle cell.
- (xxi) Briefly discuss the effects of exercise on heart rate and rhythm.
- (xxii) What changes are seen in atrial fibrillation on ECG?
- (xxiii) Write down the position of A.V node in heart.
- (xxiv) What is Chordae Tendineae?
- (xxv) Briefly discuss Frank Starling law.
- (xxvi) Enlist the parts of Aorta.
- (xxvii) Write the Indications of holters monitoring.
- (xxviii) Write the normal value of PR interval and QT interval.
- (xxix) Briefly discuss the electrodes of ECG.
- (xxx) Discuss the routes of IVC and SVC.
- (xxxi) What is Apex beat?
- (xxxii) What movement of heart valves produces loud second heart sound?
- (xxxiii) What is meant by hypertrophy of heart?

SECTION – C (Marks 30)

Note: Attempt any THREE questions. All questions carry equal marks.

(3 x 10 = 30)

- Q. 3** Discuss difference between General and Pulmonary circulation of blood.
- Q. 4** Discuss determinants of cardiac output and factors affecting it.
- Q. 5** Write Cardiac Cycle in detail. Discuss all phases.
- Q. 6** Write down the positions of ECG electrodes in human body. Discuss placement of ECG leads according to colours.
- Q. 7** Discuss circulation of blood through the heart in detail.



**DISPENSING
TECHNOLOGY HSSC-I
SECTION – A (Marks 20)**

Time allowed: 25 Minutes

Section – A is compulsory. All parts of this section are to be answered on this page and handed over to the Centre Superintendent.

Deleting/overwriting is not allowed.

Do not use lead pencil.

حصہ اول لازمی ہے اس کے جوابات ہی منظر پر دے کر نام مرکز کے حوالے کریں۔ کاٹ کر دوبارہ لکھنے کی اجازت نہیں ہے۔ لید پنسل کا استعمال ممنوع ہے۔

Version No.			
3	6	0	1

ROLL NUMBER					

0	0	●	0	0	0	0	0	0	0
1	1	1	●	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
●	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	●	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

Answer Sheet No. _____

Invigilator Sign. _____

Fill the relevant bubble against each question according to curriculum:

Candidate Sign. _____

Question	A	B	C	D	A	B	C	D
1. Rabies is the disease caused by:	Insect bite	Dog bite	Bacteria	Tick bite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The other name of Right atrioventricular valve is:	Mitral valve	Tricuspid valve	Aortic valve	Illeocecal valve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Ophthalmology is the study of:	Lungs	Kidneys	Eyes	Heart	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The other name of auditory nerve is:	Vesti-bulochochlear nerve	Facial nerve	Optic nerve	Vagus nerve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Food poisoning can be caused by all EXCEPT:	Salmonella	Botulism	CL. Perfringens	Rubella virus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The first part of small intestine is:	Illeum	Jejunum	Caecum	Duodenum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The best source of iodine in food is:	Processed food	Fast food	Sea food	Fried food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. All of the following diseases are Zoonotic EXCEPT:	Tuberculosis	Brucellosis	Toxoplasmosis	Tetanus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Night blindness is caused by deficiency of:	Vitamin A	Vitamin B	Vitamin C	Vitamin K	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. All are the correct statements regarding Right Lung EXCEPT:	It is bigger than left lung	It has 3 lobes	It has cardiac notch in it	It has 2 fissures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. The first part of Large Intestine is:	Caecum	Ascending Colon	Descending Colon	Tranverse Colon	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Nephron is present in which part of kidney?	Medulla	Cortex	Hilum	Pelvis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Against which type of Hepatitis the vaccine is given?	Hepatitis E	Hepatitis B	Hepatitis C	Hepatitis D	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. The Pertussis is the other name of:	Rabies	Whooping cough	Diphtheria	Malaria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Insulin is produced by:	Intestine	Pancreas	Liver	Kidney	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Acute cholecystitis is the inflammation of:	Liver	Stomach	Gall bladder	Lungs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. The only artery in the body which carries venous blood is:	Carotid artery	Pulmonary artery	Renal artery	Subclavian artery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Oncology is the study of:	Lung disease	Surgical problems	Cancers	Skin diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. The pace-maker of heart is:	SA node	AV node	Bundle of His	Bundle branches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. The salivary amylase is meant for digestion of:	Proteins	Carbohydrates	Fats	Vitamins	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



DISPENSING TECHNOLOGY HSSC-I

Time allowed: 2:35 Hours

Total Marks Sections B and C: 80

NOTE: Answer any twenty-five parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Write your answers neatly and legibly.

SECTION – B (Marks 50)

Q. 2 Answer any TWENTY-FIVE parts. The answer to each part should not exceed 2 to 4 lines. (25 x 2 = 50)

- (i) Write parts of Small Intestine and their lengths.
- (ii) Write difference between Passive and Active transport.
- (iii) Write the uses of Nebulizer. What drugs can be administered through it?
- (iv) Write the names of Splints.
- (v) Write the factors that affect Heart Rate.
- (vi) What are Cytology, Histology and Pathology?
- (vii) Write the names of bones of Middle Ear.
- (viii) Enlist 12 cranial nerves in order.
- (ix) Write the functions of Female reproduction system.
- (x) What is intestinal obstruction? Write its management.
- (xi) Write the Mode of transmission of Meningococcal Meningitis. Enlist any three symptoms.
- (xii) Against which disease is BCG vaccine given?
- (xiii) Write down the steps of prevention against Polio.
- (xiv) How is a patient in emergency with Acute Abdominal pain managed?
- (xv) What is Pancreatitis? Write its clinical picture.
- (xvi) What are the hormones produced by pituitary gland?
- (xvii) Write the parts of circulatory system.
- (xviii) Write a short note on Heart sounds.
- (xix) Enlist few Congenital heart diseases.
- (xx) What is the Vector of Malaria?
- (xxi) Write the management of Hypovolemic shock.
- (xxii) Write few causes of Peptic ulcer.
- (xxiii) Write the clinical picture of Tetanus.
- (xxiv) Who are at more risk in health profession of acquiring AIDS/HIV?
- (xxv) Write down the risk factors of heart disease.
- (xxvi) Draw the labelled diagram of stomach.
- (xxvii) Give examples of Ball and Socket joints.
- (xxviii) What apparatus is used for measuring Blood pressure?
- (xxix) Write complications of Diabetes Mellitus.
- (xxx) At what age of life, vaccination against measles is administered?
- (xxxi) Name the three basic Exocrine glands of the body.
- (xxxii) Write the contents of Pelvic Cavity.
- (xxxiii) What is Hernia? Write its management.

SECTION – C (Marks 30)

Note: Attempt any THREE questions. All questions carry equal marks.

(3 x 10 = 30)

- Q. 3** Discuss in detail the structure and functions of lungs.
- Q. 4** What is shock? Write its causes, types, clinical picture and management.
- Q. 5** What is T.B (tuberculosis)? Discuss in detail its causes, clinical picture, diagnostic tests and management.
- Q. 6** What is Biliary tree? Discuss its structure and functions.
- Q. 7** What is Tetanus? Discuss its causes, clinical picture and management.