

Time:3 Hours

Max. Mark's:- 70

PART-A-PHYSIOLOGY (35 MARKS)

1) Describe the Physiology of Neuro-Muscular transmission in skeletal Muscle.

WRITE SHORT NOTES ON: (4X4=16Marks)

2) Renin Angiotensin System.

3) Composition and functions of "Bile Juice"

4) Draw a labeled diagram of "Juxta-Glomerular Apparatus"

5) Lung Surfactants.

WRITE BRIEFLY ON: (5X2=10Marks)

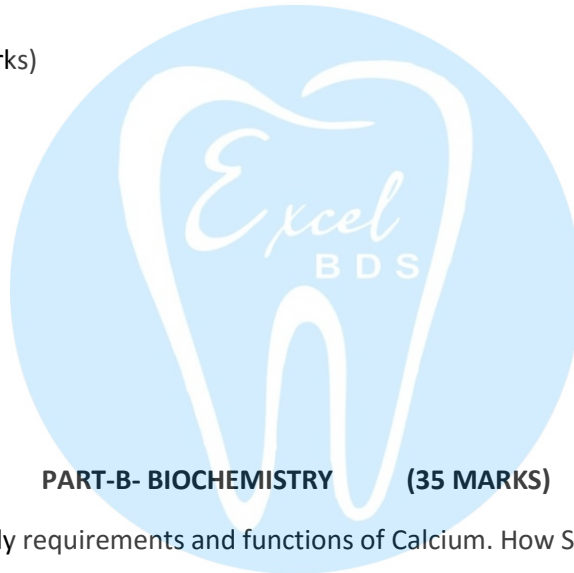
6) Acromegaly.

7) Menopause.

8) Functions of Middle Ear.

9) Astigmatism.

10) Functions of Hypothalamus.



PART-B- BIOCHEMISTRY (35 MARKS)

11) Write the dietary sources, daily requirements and functions of Calcium. How Serum Calcium is regulated? (2+2+2+3=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

12) Diagnostic importance of enzymes.

13) Absorption, transport and storage of iron.

14) Classification of Jaundice.

15) Essential fatty acids and their importance.

WRITE BRIEFLY ON: (5X2=10Marks)

16) Electrophoretic pattern of plasma proteins.

17) Ketosis.

18) Salient features of Genetic Code.

19) Haemoglobinopathies.

20) Write any two reactions involved in detoxification process.

Time:3 Hours

Max. Mark's:- 70

PART-A-PHYSIOLOGY (35 MARKS)

1) Give the composition of Saliva and explain the functions of Saliva. (4+5=9)

WRITE SHORT NOTES ON (4X4=16Marks)

- 2) Baro receptors.
- 3) Carbon dioxide transport in blood.
- 4) Digestion and absorption of carbohydrates in gastrointestinal tract.
- 5) Functions of proximal convoluted tubules of Kidney.

WRITE BRIEFLY ON: (5X2=10MARKS)

- 6) Olfactory receptors.
- 7) Muscle stretch reflex.
- 8) Types of sleep.
- 9) Anticoagulants.
- 10) Early diagnosis of pregnancy.

PART-B-BIOCHEMISTRY (35 MARKS)

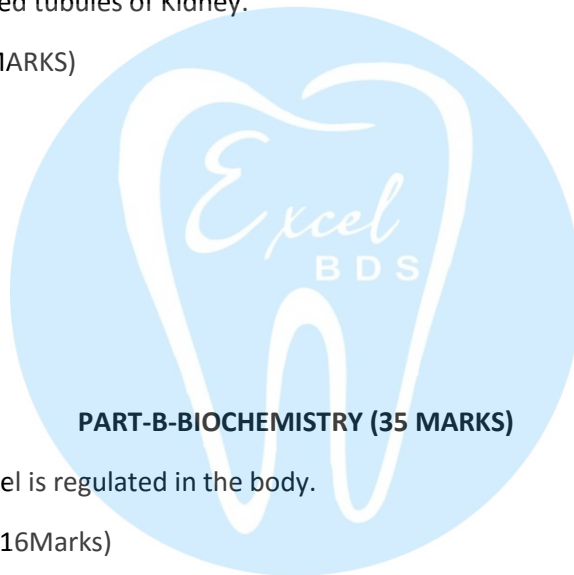
11) Explain how blood glucose level is regulated in the body.

WRITE SHORT NOTES ON: (4X4=16Marks)

- 12) Classification of Lipids.
- 13) Regulation of Heme Synthesis.
- 14) Structure of DNA.
- 15) Classify enzymes with one example for each class.

WRITE BRIEFLY ON: (5X2=10Marks)

- 16) Vitamin K deficiency leads to bleeding
- 17) Ammonia is toxic to the body
- 18) Cellulose is not digested by our body
- 19) Optimum level of fluoride is needed for healthy teeth
- 20) Cholesterol cannot be transported free in blood.



Time:3 Hours

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PART-A-PHYSIOLOGY (35 MARKS)

1) Define Erythropoiesis. Describe the different stages. Add a note on Maturation factors. (2+4+3=9)

WRITE SHORT NOTES ON: (4X4=16Marks)

2) Actions of Estrogens.

3) Refractive errors.

4) Functions of Saliva.

5)Actions of Insulin.

WRITE BRIEFLY ON: (5X2=10Marks)

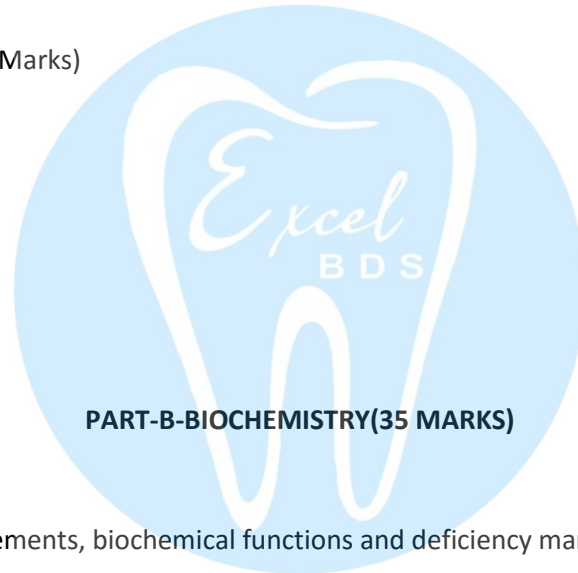
6) Parkinsonism.

7) Two actions of Testosterone.

8) Asphyxia.

9) Ovulation.

10) Name Muscle Proteins.



11) What are the sources, requirements, biochemical functions and deficiency manifestations of Vitamin D. (2+2+3+2=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

12) Functions of HMP shunt pathway.

13) Digestion of proteins.

14) Role of Kidney in regulating pH of blood.

15) Vitamin A

WRITE BRIEFLY ON: (5X2=10Marks)

16) Protein denaturation.

17) Jaundice.

18) Plasma lipoproteins.

19) Beriberi.

20) Reference values for fasting blood glucose and blood urea.

PART-A-PHYSIOLOGY (35 MARKS)

1) Define cardiac output. Explain the factors influencing cardiac output. (1+8=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

2) Secondary sexual characters in female.

3) Nerve action potential.

4)Control of gastric secretion.

5) Micturition reflex.

WRITE BRIEFLY ON: (5x2=10Marks)

6)Hypermetropia.

7) Calcitonin.

8) Hypoxia.

9) Functions of hypothalamus.

10) Acromegaly.

PART-B-BIOCHEMISTRY (35 MARKS)

11) Write the dietary sources, daily requirements, functions of calcium and regulation of serum calcium. (2+1+2+4=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

12) Metabolic changes in diabetes mellitus

13) Abnormal haemoglobins

14) Immunoglobulins

15) Competitive enzyme inhibition and its importance in medicine

WRITE BRIEFLY ON: (5x2=10Marks)

16) Give the coenzyme form and deficiency manifestations of Vitamin B2

17) Different types of RNAs and their functions

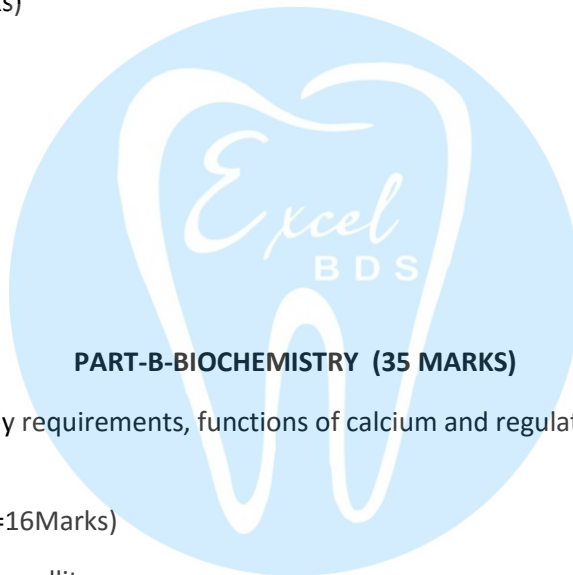
18) Biochemical Functions of Copper

19) Enzymes of diagnostic importance in Liver disease

20) What are the normal levels of

a) Serum Creatinine

b) Serum Uric Acid



Time:3 Hours

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PART-A-PHYSIOLOGY (35 MARKS)

1) Explain stages of Erythropoiesis. Add a note on factors required for erythropoiesis. (5+4=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

2) Progesterone.

3) Properties of smooth muscle.

4) Functions of bile.

5) Factors influencing glomerular filtration rate.

WRITE BRIEFLY ON: (5x2=10Marks)

6) Myopia.

7) Forms of oxygen transport.

8) Functions of CSF.

9) Insulin.

10) Components of a reflex arc.

PART-B-BIOCHEMISTRY (35 MARKS)

11) Outline the Glycolytic pathway for the oxidation of glucose in the body. What its energetics?

WRITE SHORT NOTES ON: (4x4=16Marks)

12) Biochemical functions of Vit. A

13) Competitive inhibition.

14) Beta Oxidation of fatty acids.

15) Characteristics of genetic code.

WRITE BRIEFLY ON: (5x2=10Marks)

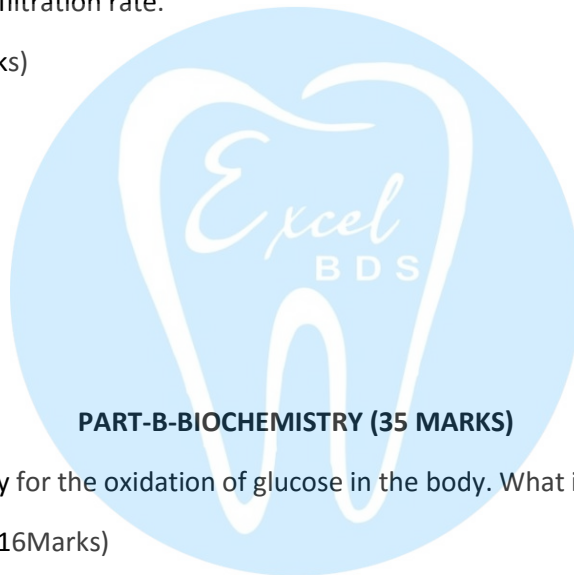
16) Significance of HMP pathway

17) Essential Amino acids.

18) Biochemically important products from cholesterol.

19) Factors regulating plasma calcium.

20) Basal metabolic rate and its importance.



DR. NTR UNIVERSITY OF HEALTH SCIENCES::AP::VJAYAWADA-520.008
B.D.S. DEGREE EXAMINATION JUNE/JULY- 2017 FIRST BDS EXAMINATION
GENERAL HUMAN PHYSIOLOGY & BIOCHEMISTRY

Time:3 Hours

Max. Mark's:- 70

PART-A-PHYSIOLOGY (35 MARKS)

1) Describe nervous and chemical regulation of respiration (9)

WRITE SHORT NOTES ON (4X4=16Marks)

2) Short term blood pressure regulating mechanisms.

3) Composition and functions of Gastric Juice.

4) Visual Pathway.

5) Cushing's syndrome.

WRITE BRIEFLY ON: (5x2=10Marks)

6) Taste buds.

7) Functions of Lymph.

8) Rh blood group.

9) Female contraceptives.

10) Saltatory conduction in nerve fibres.

PART-B-BIOCHEMISTRY (35 MARKS)

11) Outline the steps of urea cycle. Indicate the reference range for blood urea.

WRITE SHORT NOTES ON: (4X4=16Marks)

12) Digestion of carbohydrates.

13) Functional and Nutritional classification of Proteins.

14) Functions of Calcium

15) Ketosis.

WRITE BRIEFLY ON: (5x2=10Marks)

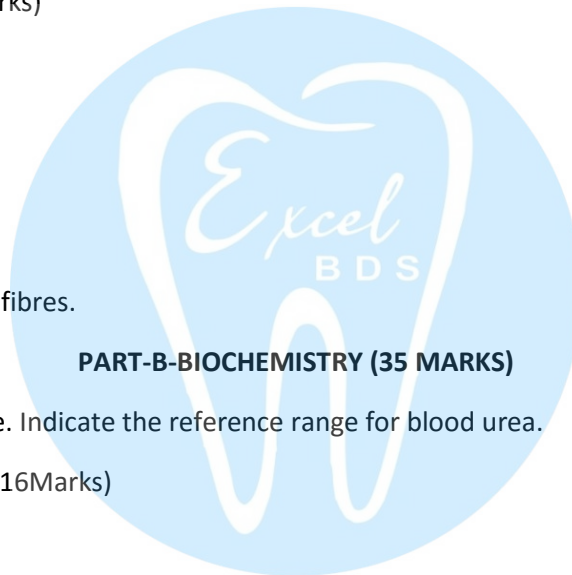
16) Glycogen.

17) Functions of plasma albumin.

18) Hormones in blood glucose regulation.

19) Source and deficiency manifestations of Vitamin C.

20) Function and deficiency of Iodine.



Time:3 Hours

Max. Mark's:- 70

PART-A-PHYSIOLOGY (35 MARKS)

1) Give the composition of Saliva and explain the functions of Saliva. (4+5=9)

WRITE SHORT NOTES ON: (4X4=16Marks)

2) "Sino Aortic reflex"

3) Composition and functions of "Gastric Juice"

4) Plasma proteins

5) Oxygen- Hemoglobin dissociation Curve"

WRITE BRIEFLY ON: (5X2=10Marks)

6) Dwarfism

7) Puberty

8) Rhesus Factor

9) Hypermetropia

10) Stages of spermatogenesis.

PART-B- BIOCHEMISTRY (35 MARKS)

11) How do you classify enzymes? What is the effect of pH, temperature and substrate concentration on enzyme activity? (2+1+2+4=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

12) Plasma Lipoproteins.

13) Metabolic changes in Diabetes Mellitus.

14) Explain the biochemical role and deficiency manifestations.

15) Glycolysis.

WRITE BRIEFLY ON: (5x2=10Marks)

16) Essential fatty acids

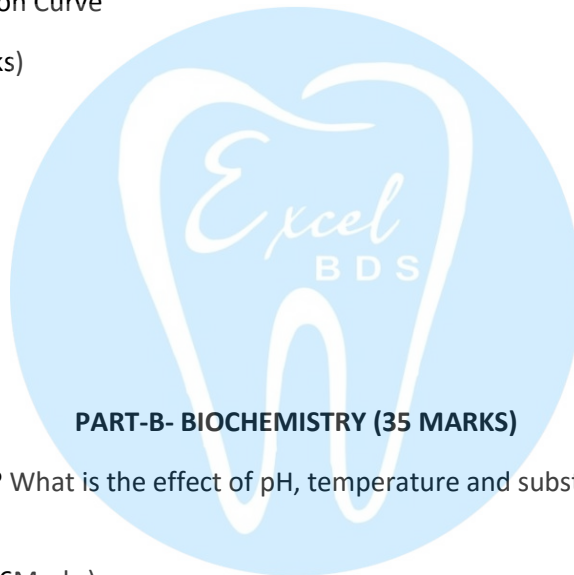
17) Gout.

18) Transamination.

19) Factors affecting Calcium absorption.

20) What are the normal levels of the following?

a) Serum Potassium b) Serum cholesterol



Time:3 Hours

Max. Mark's:- 70

PART-A-PHYSIOLOGY (35 MARKS)

1) Define cardiac cycle. Enumerate its different phases. Explain the left ventricular pressure changes during a cardiac cycle with the help of a graph. (1+3+5=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

- 2) Testosterone.
- 3) Taste buds
- 4) Functions of large intestine.
- 5) Functions of proximal convoluted tubule.

WRITE BRIEFLY ON: (5x2=10Marks)

- 6) Presbyopia.
- 7) Forms of carbon dioxide transport.
- 8) Functions of cerebellum.
- 9) Cortisol.
- 10) Cretinism.

PART-B-BIOCHEMISTRY (35 MARKS)

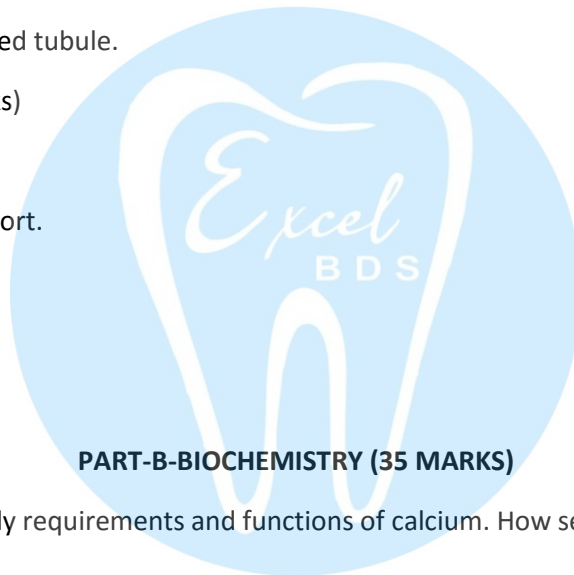
11) Write the dietary sources, daily requirements and functions of calcium. How serum calcium level is regulated? (2+2+2+3=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

- 12) Anaphylaxis.
- 13) Sources, biochemical functions and deficiency symptoms of thiamin.
- 14) Gluconeogenesis.
- 15) Ketogenesis

WRITE BRIEFLY ON: (5x2=10Marks)

- 16) Name the stages of transcription
- 17) Protein Calorie Malnutrition
- 18) Dietary Fiber
- 19) Serum enzymes as liver function tests
- 20) Functions of Vitamin C.



Time:3 Hours

Max. Mark's:- 70

PART-A-PHYSIOLOGY (35 MARKS)

1) Describe the nervous regulation of respiration. Add a note on Herring Breuer's reflex.

WRITE SHORT NOTES ON: (4x4=16Marks)

2) Physiological changes in pregnancy

3) Visual pathway

4) Functions of lymph

5) Functions of blood.

WRITE BRIEFLY ON (5X2=10Marks)

6) Taste buds.

7) Neuron.

8) 3 hormones regulating plasma calcium.

9) Functions of Saliva.

10) Peristalsis.

PART-B-BIOCHEMISTRY (35 MARKS)

11) Outline the pathway of aerobic glycolysis: Add a note on its energetics.

WRITE SHORT NOTES ON:(5X2=10Marks)

12) Name the ketone bodies. How are they formed?

13) Functions of Vitamin A.

14) Name the types of ribonucleic acid (RNA), mention their important structural features and functions.

15) Explain the diagnostic importance of plasma enzymes with any three examples

WRITE BRIEFLY ON: (5x2=10Marks)

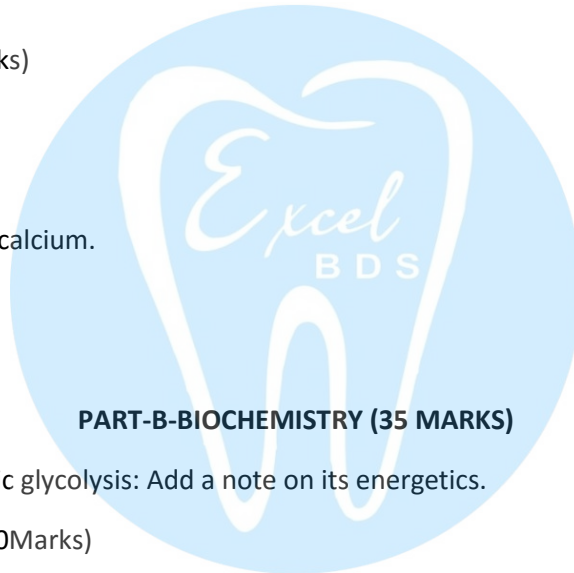
16) Functions of albumin.

17) Mention the normal blood levels of Calcium, cholesterol, urea and creatinine.

18) Function and deficiency of iodine.

19) Essential fatty acids.

20) Name any two disaccharides and give their composition.



Time:3 Hours

Max. Mark's:- 70

PART-A-PHYSIOLOGY (35 MARKS)

1) What is Blood? What are the functions of Blood? Outline stages of Erythropoiesis. (2+3+4=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

2) Chemical Regulation of Respiration.

3) Actions of cortisol.

4) E.C.G. and its waves and causes.

5) List the different types of Hypoxia. Explain any one of them.

WRITE BRIEFLY ON: (5X2=10Marks)

5) Packed Cell volume.

7) Two family planning methods.

8) Name the phases of Gastric Secretion.

9) Define cardiac output and Blood Pressure.

10) Two functions of Liver.

PART-B-BIOCHEMISTRY (35 MARKS)

11) How provitamin D is converted to its active form? Give the biochemical role and deficiency manifestations of Vitamin D. (3+3+3=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

12) Write the components of electron transport chain. Indicate the sites of ATP formation during electron transport.

13) Enumerate the functions of Albumin. Mention the causes of hypoalbuminemia.

14) Name the derivatives of cholesterol. Give the biomedical importance of three derivatives of cholesterol.

15) What are isoenzymes? Give two examples and mention their clinical significance.

WRITE BRIEFLY ON: (5x2=10Marks)

16) What are essential amino acids? Name them.

17) Heparin.

18) What is renal glycosuria?

19) Name two competitive inhibitors of enzyme.

20) Mention the conditions arising due to the deficiency and excess of Fluoride in the body.

Time:3 Hours

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PART-A-PHYSIOLOGY (35 MARKS)

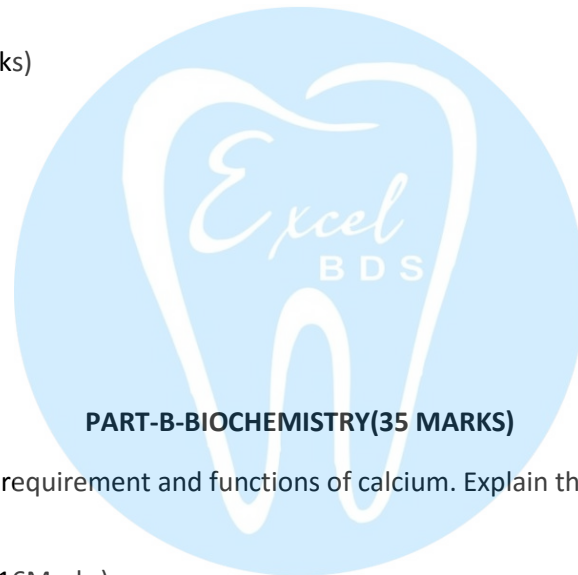
1) Mention the names of clotting factors in proper order. Explain the intrinsic mechanism of blood clotting. (4+5=9)

WRITE SHORT NOTES ON: (4x4=16Marks)

- 2) Chemoreceptors.
- 3) Regulation of gastric juice secretion.
- 4) Actions of growth hormone.
- 5) Functions of hypothalamus.

WRITE BRIEFLY ON: (5x2=10Marks)

- 6) Feto placental unit.
- 7) Stretch reflex.
- 8) All or None law
- 9) Taste pathway.
- 10) Male contraceptive methods.



PART-B-BIOCHEMISTRY(35 MARKS)

11) Enumerate the sources, daily requirement and functions of calcium. Explain the regulation of serum calcium level. (2+1+2+4=9)

WRITE SHORT NOTES ON: (4X4=16Marks)

- 12) Digestion and absorption of Carbohydrates.
- 13) Significance of citric acid cycle.
- 14) Salient features of double helical structure of DNA.
- 15) Influence of any four factors on enzyme activity.

WRITE BRIEFLY ON (5X2=10Marks)

- 16) Name any two glycosaminoglycans, mention their functions.
- 17) Von-Gierke's disease.
- 18) Give the normal pattern of serum protein electrophoresis.
- 19) Name the biologically important compounds formed from cholesterol.
- 20) Salient features of genetic code.

PART-A-PHYSIOLOGY (35 MARKS)

1) Define blood pressure. What are the factors affecting blood pressure? Describe the regulation of blood pressure. (2+3+4=9)

WRITE SHORT NOTES ON (4X4=16Marks)

- 2) Estrogen.
- 3) Properties of Cardiac muscle.
- 4)Composition and functions of saliva.
- 5) Functions of kidney.

WRITE BRIEFLY ON: (5x2=10Marks)

- 6) Functions of Rods and Cones.
- 7) Mass reflex
- 8) Secretions of anterior pituitary
- 9) Composition of pancreatic juice.
- 10) Deglutition.

PART-B-BIOCHEMISTRY (35 MARKS)

11) Outline the steps of Glycolysis. (9)

WRITE SHORT NOTES ON: (4x4=16Marks)

- 12) Classify enzymes
- 13) Electron transport chain
- 14) Vitamin A
- 15) Ketogenesis

WRITE BRIEFLY ON: (5X2=10Marks)

- 16) Basal Metabolic Rate (BMR)
- 17) Rickets
- 18) Biologically important peptides
- 19) Essential fatty acids
- 20) Normal values of blood urea and serum creatinine.

