BDS FIRST PROFESSIONAL EXAMINATION 2007
PHYSIOLOGY (MCQs)
MODEL PAPER

Total marks: 45 **Time: 45 min**
Note: Attempt all questions

01. Cell membrane is:
a. Thick and fibrous.
b. Thin and non elastic.
c. Composed of proteins and lipids.
d. Made up of carbohydrates only.
e. Is freely permeable to glucose and urea.
Key: c

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02. Mitochondria:
a Are self replicative.
b Contains RNA only.
c Work along with ser for protein synthesis.
d Do not have a membrane.
e Have many secretary vesicles in the inner matrix.
Key: a

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03. Rebosomes:
a. Have two different types of proteins.
b. Controls biochemical activity of cell.
c. Have 60% RNA in their structure.
d. Are entirely synthesized in the cell cytoplasm.
e. Digest bacteria by secreting bactericidal agents.
Key: c

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04. In primary active transport energy is derived from:
a. ATP breakdown.
b. Ionic concentration differences across two sides of cell membrane.
c. Golgi apparatus.
d. Counter transport of calcium and hydrogen ions.
e. Co-transport of glucose and amino acids.
Key: a

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05. Sodium potassium pump continuously pumps:
a. Only sodium ions to inside of cells.
b. Chloride ions along with sodium and potassium ions.
c. Only potassium ions to outside of cells.
d. Both sodium and potassium ions to outside.
e. Sodium ions to outside and potassium ions to inside of the cell.
Key: e

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06. In a muscle fiber light bands:
a. Contain myosin filaments.
b. Are anisotropic to polarized light.
c. Are produced due to Z disc.
d. Have only actin filaments.
e. Show interaction among actin and myosin filaments.
Key: e

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07. During Isometric muscle contraction:
a. Muscle does not shorten.
b. Shortening of muscle occurs.
c. Tension on muscle remains constant.
d. Muscle gets shorter against a fixed load.
e. Actual body movements occur.
Key: a

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08. Rigor mortis:
a. Occurs immediately after death.
b. Is due to abundance of ATP.
c. Leads to rigidity of body muscles.
d. Results in autolysis of muscles.
e. Occurs 25 hrs after death.
Key: c

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09. Acetylcholine receptors in muscle fibre membrane are:
a. Carbohydrate in nature.
b. Present only in smooth muscles.
c. Cause destruction of Acetylcholine esterase.
d. Acetylcholine gated ion channels.
e. Having strong positive charges upon their surface.
Key: d

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10. Myasthenia Gravis is:
a. Due to rapid transmission of nerve signals.
b. An acute inflammatory disease.
c. A chronic infection of nerve fibers at motor end plate.
d. An auto immune disease.
e. Due to decrease secretion of acetylcholine at neuromuscular junction.
Key: e

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11. GFR normally:

a. Is 80% of renal plasma flow.
b. Decreases by increased BP.
c. Increases by increasing glomerular colloidal osmotic pressure.
d. Decreased with increased glomerular capillary hydrostatic pressure.
e. Decreased by increasing Bowman's capsul hydrostaticpressure.

Key: e

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12. In kidneys, tubular re-absorption:

a. Is highly selective process.
b. Includes only passive transport.
c. Needs high level of calcium ions.
d. Is linked to ATP synthesis.
e. Occurs by pinocytosis especially of sodium ions and potassium ions.

Key: a

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13. The thick segment of ascending loop of Henle is:

a. Highly permeable to water.
b. Impermeable to all solutes.
c. Impermeable to water.
d. A part of Juxtaglomerular complex.
e. Highly convoluted.

Key: c

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14. ADH increases permeability of distal tubule to:

a. Amino acids.
b. Glucose.
c. Urea.
d. Water
e. Creatinine.

Key: d

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15. In normal men, average count. of Red Blood Cells per cubic millimeter of Blood is:

a. 11000.
b. 35000.
c. 300,000.
d. 4000.
e. 5000,000.

Key: e

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16. The first cell that can be identified as belongings to RBC series is:

a. Basophil erythroblast.
b. Proerythroblast.
c. Reticulocyte.
d. Megaloblast .
e. CFU-S.

Key: b

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17. Mast cells and basophils play important role in some types of:

a. Allergic reactions.
b. Parasitic infections.
c. Acute infections.
d. Chronic inflammatory diseases.
e. Polycythemia.

Key: a

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18. Cancerous mutation of myelogenous or Lymphogenous cells is called:

a. Leucopenia.
b. Anemia.
c. Leukemia.
d. Leukosytosis.
e. Thrombocytopenia.

Key: c

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19. Vitamin K is required by liver for normal formation of:

a. Fibrinogen.
b. Globulins.
c. Platelets.
d. Prothrombin.
e. Fibrin.

Key: d

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20. Two antigens – type A and type B- are present:

a. On surface of RBC's.
b. In plasma.
c. Along with plasma albumin.
d. Inside the lymphocytes.
e. As a part of agglutinins.

Key: a

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21. Extrinsic pathway for initiating clotting begins with:

a. Activation of factor XII.
b. Formation of fibrin threads.
c. Blood trauma.
d. Traumatized vascular wall.
e. Conversion of prothrombin to thrombin.

Key: d

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22. Vital capacity:

a. Equals to inspiratory reserved volume + residual volume.
b. Is increased in pulmonary tuburculoses.
c. Is maximum amount of air inspired after tidal inspiration.
d. Is not affected in obstructive lung diseases.
e. Normally is 4600ml.

Key: e

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23. 97% of oxygen from lungs to tissues is carried in chemical combination with:

a. Carbon dioxide.
b. Hydrogen ions.
c. Hemoglobin.
d. Water.
e. Plasma proteins.

Key: c

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24. Reaction between water and carbon dioxide with in Red Blood Cells is catalyzed by the enzymes:

a. Peroxidase.
b. Catalase.
c. Collagenase.
d. Carbonic anhydrase.
e. Esterase.

Key: d

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25. Dorsal respiratory group of neurones:

a. Controls the depth of breathing.
b. Causes expiration.
c. Is located in superior portion of pons.
d. Emits inspiratory ramp signals.
e. Remains inactive during normal resting breathing.

Key: d

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26. Increased respiratory rate at initiation of exercise results from:

a. neurogenic signals.
b. Increased pco2.
c. Increased hydrogen ion concentration.
d. Decreased pco2.
e. Increased body temperature.

Key: a

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27. Paleospinothalamic pathway transmits signals of:

a. Slow chronic pain.
b. Fast pain.
c. Proprioception.
d. Fine touch.
e. Type Adelta fibers.

Key: a

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28. In Spinal cord transection on one side:

a. Sense of pain & temperature is lost on same side.
b. Vibration sense lost on opposite side.
c. Brown Sequard Syndrome occurs.
d. Only motor lose occurs on opposite side.
e. Parasthesia occurs all over the body.

Key: c

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29. Intension tremors occur in disease of:

a. Basal ganglia.
b. Sensory cortex.
c. Pyramidal tract.
d. Cerebellum.
e. Limbic system.

Key: d

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30. Brocaca 's area for speech:

a. Is sensory speech area.
b. Controls behaviour and emotions.
c. Is located in temporal lobe.
d. Also concerned with recognition of faces.
e. Provides neural circuit for word formation.

Key: e

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31. Sympathetic stimulation causes:

a. Dilation of all blood vessels of the body.
b. Activates gastric motility.
c. Decreased cardiac activity.
d. Pupillary dilation.
e. Decreased hepatic metabolism.

Key: d

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32. REM(rapid eye movement) sleep is associated with:

a. Extreme inhibition of peripheral muscles.
b. Completely relaxed state of brain.
c. Normal and regular heart rate.
d. Decreased respiratory rate.
e. Increased muscle tone.

Key: a

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33. Optic disc in retina:

a. Especially associated with acute and detailed vision.
b. Entirely composed of cones.
c. Has large and cylinder rods.
d. Is the area from which optic nerve leaves the eye ball.
e. Has no blood vessels.

Key: d

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34. Inhibitory signals are transmitted to anterior motor neurones of spinal cord from:

a. Vestibular nuclei.
b. Medullary reticular nuclei.
c. Pontine nuclei.
d. Cochlea.
e. Thalamus.

Key: a

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35. Preoptic area of hypothalamus is concerned with regulation of:

a. Body water.
b. Milk ejection.
c. Uterine contractility.
d. Body temperathre.
e. Anterior pituitary secretion.

Key: d

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36. Cerebrospinal fluid:
a. Absorbed by choroids plexus.
b. Secreted by arachnoidal villi.
c. Osmotic pressure is higher than plasma.
d. High pressure causes edema of optic disc (papilledema).
e. Is secreted in execessive amount in large brain tumous.
Key: d

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37. Enterogastric nervous reflexes from duodenum:
a. Promote antral contractions.
b. Produce inhibitory effect on gastric contractions.
c. Are activated by isotonic antral fluid.
d. Are activated by increased PH of antral mucosae.
e. Are the cause of hunger contractions.
Key: b

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38. Antidiuretic hormone (ADH):
a. Increases BMR.
b. Promotes calcium ions deposition in bones.
c. Plays important role in carbohydrate metabolism.
d. Increases water reabsorption by the kidneys.
e. Causes vasodilation.
Key: d

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39. Somatomedine:
a. Loosely attached to carrier proteins in blood.
b. Is produced in response to GH.
c. Is released from blood to tissues rapidly.
d. Decreases growth promoting effect of GH.
e. Is produced by anterior pituitary gland.
Key: b

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40. Cretinism is characterized by:
a. Hyperglycemic attacks.
b. Excessive bone growth.
c. Failure of mental growth.
d. Exopthalomas.
e. Lack of sleep.
Key: c

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41. One of the most important feature of the progressive shock is:

a. Initiation of baroreceptor reflex.
b. Progressive cardiac deterioration.
c. Return of blood volume back to normal.
d. Maintenance of arterial pressure and cardiac output.
e. CNS ischemic response.

Key: b

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42. The most frequent cause of diminished coronary blood flow is:

a. mitral stenosis.
b. Exercise.
c. Atherosclerosis.
d. Mass sympathetic discharge.
e. Increased venous return.

Key: c

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43. Cardiac output is equal to:

a. Stroke volume (SV) X venous return (VR).
b. End diastolic volume (EDV) _end systolic volume (ESV).
c. Stroke volume (SV)X heart rate (HR).
d. 300 ml / min.
e. Cardiac index.

Key: c

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44. Excitation of baroreceptors in arteries reflexly causes:

a. Arterial pressure to decrease.
b. Peripheral vasoconstriction.
c. Increased cardiac output.
d. Vasovagal syncope.
e. Prolonged P-R interval.

Key: a

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45. Decreased oxygen availability to tissues causes:

a. Vascular muscle contraction.
b. Decrease release of adenosis.
c. Local vasodilation.
d. Increase synthesis of ATP.
e. Decrease in respiratory rate.

Key: c

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