PHYSIOLOGY ASSORTED SAQ'S FROM DIFFERENT PAST PAPERS FOR MBCHB AND BPHARM

WHEN TWO WEEKS OLD,WITH ALL THE FONTANELLES STILL OPEN,SURVIVING WITH ONLY A KYHOTIC CURVE:THE J OURNEY SEEMED SO FAR BUT YET NOW ITS CLOSER THAN I IMAGINED IT WOULD EVER BE. WITH ALL GLORY AND HONOUR BE UNTO GOD FOR HIS GREATNESS AND FAITHFULNESS. (J eremiah 29:11)

1. With a diagram describe the different components of a negative feedback system.

2. Briefly describe two different modes of fluid movements between body fluid compartments.

3. State five functional differences between parasympathetic and sympathetic sympathetic nervous systems.

4. Describe how steroid hormones stimulate protein synthesis.

5. In relation to sensory physilogy,describe adaptation,law of specific nerve energies and law of projection.

6. Explain the difference between end plate potential, inhibitory post synatic potential and excitatory postsynaptic potential. For each give the neurotransmitter involved.

7. List the different tyes of transport mechanisms across the cell membrane and an example of each,

8. With a dagram show five cell organelles and the function of each.

9. Briefly define axoplasmic flow and the proteins involved in their transport.

10. Describe the role of voltage gated action potentials (potassium and sodium)

11. Describe the replicative stage of HIV-1

12. Explain how the normal range is calculated (95% confidence interval)

13. Describe the cyclic Amp signal pathway.

14. Descibe five properties of cell membrane receptors.

15. Explain how the proton gradient across the mitochondrial membrane is created.

16. Explain the inhibitory post-synaptic potentials and their ionic basis.

17. Exlplain excitatory post synaptic potentials and their ionic basis.

18. What is the fate of neurotransmitter after release?

19. Describe the functions of golgi apparatus.

20. Describe the functions of mitochondria.

21. Describe the benefits of pentose phosphate pathway to a cell.

22. Explain synthesis of acetylcholine as a neurotransmitter

23. List th major structural components of a cell membrane and illustrate how they are organized.

24. Name the six steps of signalling events initiated by cell membrane receptors.

25. Describe five types of receptors in a mammalian cell.

26. Explain how t-RNAperforms its role in protein elongation .

27. Eplain how antibiotic selectivity inhibirs mitosis in bacteria while sparing mammalia cell i vivo.

28. What modalities are carried by the following sensory afferent peripheral nerves.9(A alpha,A beta, A gamma, A delta , B, C)

29. Describe the sequence and functions of voltage gated sodium, and potassium channels during an action potential.

30. Differentiate between action potential,inhibitory post-synaptic potential,excitatory post-synaptic potential,receptor potential and generator potential.

31. What is the difference between the reflex muscle function elicited by stimulation of

(a) A muscle own muscle spindle afferents

(b) The muscle own golgi tendon afferents.

32. Describe the different body fluid compartments and their different body fluid compartments.

33. With a diagram ,illustrate the different stages of chemical synaptic transmission.

34. Write an essay of homoestasis under the following tittles:

(a) Life and its characteristics.

(b) Concept of internal environment.

(c) Definition of homoestasis and homoedynamism.

(d) Typical physiological control model and its components.

(e) Difference between open and closed control loop giving examples.

(f) Diagramatic examples of negative feedback control,positive feedback control,adaptive feedback control and feed forward control.

35. Discuss the similarities and differences between propagated and non-propagated action potentials.

36. Discuss second messengers under the following topics:

(a) Define second messengers concept

(b) Name five second messengers and the ligands that are associated with their pathway.

(c) Describe how three second messengers work in target cells.

37. Discuss protein synthesis under the following topics:

(a) Initiation .

(b) Transcrition and posttranscriptional modification.

(c)Translation and posttranslational modfication.

38. Discuss the hormonal control of blood glucose metabolism.

39. Define the term reflex and the components of a reflex arc. Giving examples.

40. List the functions of the Cardiovascular system.

41. Write an essay on erythropoiesis.

42. Write an essay on hemoglobin under the following headings

(a) Structure and types

(b) Synthesis and breakdown

(c) Transport and associated clinical manifestations of hemoglobin

43. Discuss the innate and adaptive immunity in response to antigen response.

44. Discuss the physiology of skeletal muscle under the following subheadings:

(a) Composition and structure of a sarcormere.

(b) Excitation contraction coupling.

45. Differentiate between sensory physiology ,sensory modality,sensory receptor and sensory organ.

46. List types of environmental energy.

47. Discuss the clotting mechanisms of both intrinsic and extrinsic systems.

48. Explain lysosomal storage disease and give examples.

49. Distinguish between intrafusal and extrafusal muscle fibres as they relate to reflex physiology.

50. Explain the role of vitamin B6 and B12 in red cell formation .

51. List five immunoglobulins and state their functions.

52. List the spinal cord ascending pathways and the modalities they convey.

53. Explain the term respiratory burst in relation to leukocyte function.

54. Compare and contrast the physiology of skeletal,smooth and cardiac muscle.

55. Discuss role of ion channels in an action potential production under the following subheadings:

(a) Activation gates of voltage gated sodium channels.

(b) Inactivation gates of voltage gated sodium channels.

(c) Voltage gated potassium channels.

56. Discuss the local control of cardiovascular system.

57. Discuss the platelet reaction.

58. Discuss the anticlotting mechanism.

59. List three conditions that trigger symathetic response and the different body responses to sympathetic stimulation.

60. Discuss the following: Frank-starling law,cardiac output ,stroke volume,preload,afterload.

61. Discuss the stages of systole and diastole

62. Draw and discuss an ECG and what happens in different waves.

63. Discuss factors affecting blood pressure.

64. Distinguish between adrenergic and cholinergic receptors and their location.

65. Describe receptors and neurotransmitters in sympathetic system.

66. Discuss the different types of anaemia and their presentations and causes.

67. Write an essay on cell signaling.

68. Discuss the Renin-angiotensin system.

69. Write an essay on the basis of Frank-Starling law of the heart.

70. Discuss the starling forces in oedema fromation.

71. Write an essay on control of cardiac output.

72. What is the function of cholestrol and lipids in cell membrane.

73. Describe the steps in extracellular signalling.

74. Define monosynaptic and polysynaptic reflexes giving examples.

75. Briefly describe immune response after inhalation of pollen grain.

76. Differentiate between classical,alternate pathways of complimentary immune system.

77. Describe role of vitamin K in hemestasis.

78. Describe role of folic acid in hematopoiesis.

79. In ECG wave what signifies P wave,QRS complex, T wave, ST interval, QT interval,U wave, PR interval.

80. What determines rate flow through a blood vessel.

81. Briefly describe components of extracellular signalling pathway.

82. Briefly describe components of intracellular signalling pathway.

83. Describe the role of second messengers.

84. Using a diagram differentiate between action potential in skeletal muscle,neuron,cardiac muscle

85. Adreanal gland may be considered as an autonomic ganglia explain.

86. Differentiate between ionotropic and metabotropic receptors giving an example of each.

87. Compare and contrast B and T lymphocytes.

88. Distinguish between blood grouping and cross-matching.

89. Describe nerve transmission difference between myelinated and non-myelinated nerve fibres.

90. List causes of normocytic-normochromic anaemia.

91. Describe the role of acetylcholine in autonomic nervous system.

92. Distinguish between type 1 and type 2 muscle fibres.

93. Discuss the inflaammatory process.

94. Discuss mechanisms of receptor regulation and the need for both.

95. Describe the various heart sounds.

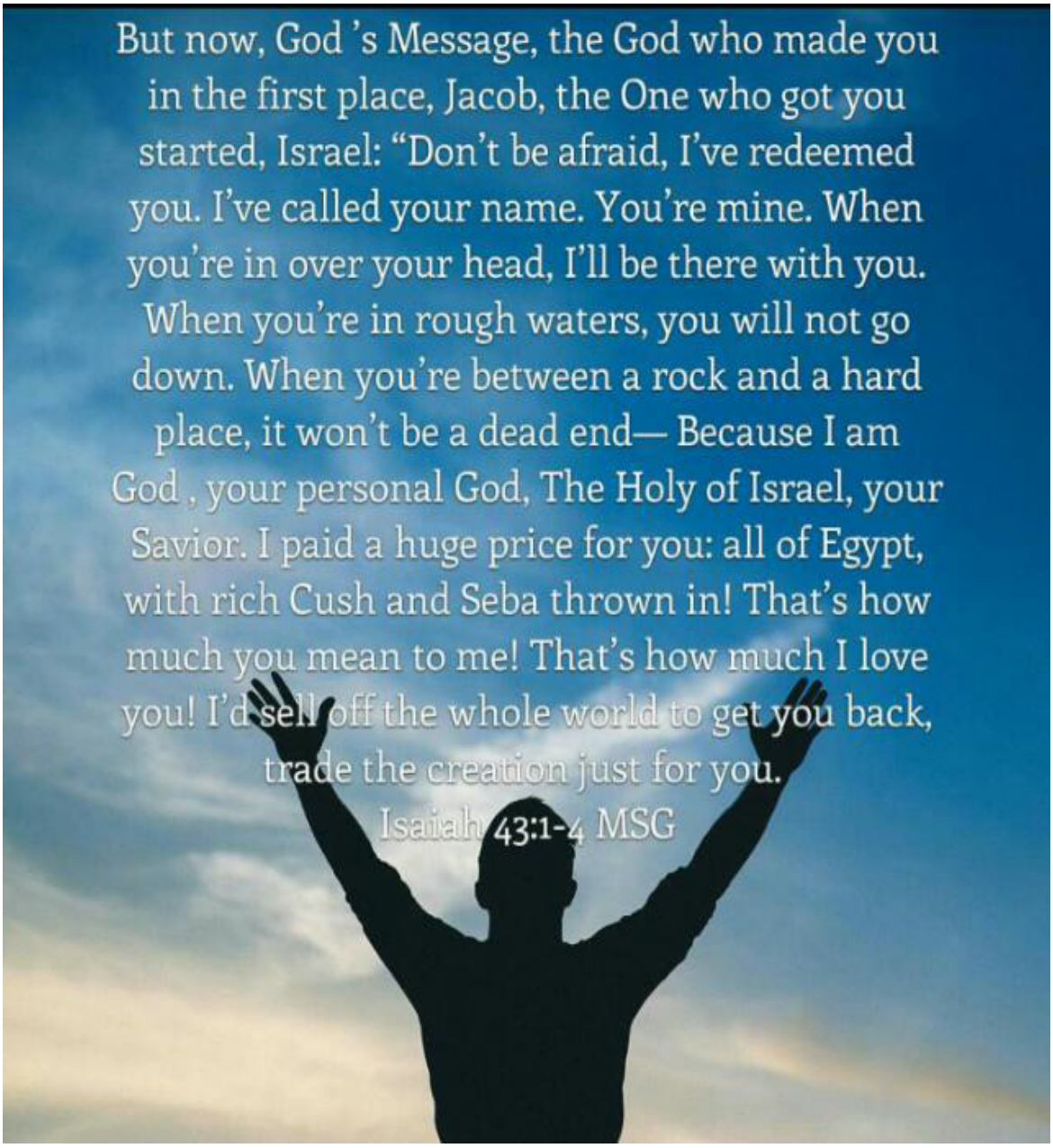
96. Distinguish between absolute and refractory periods

97. Describe the mechanisms of inter-cellular communication in the body.

98. Describe four stages of sensory information handling in the peripheral nervous system.

99. Exlplain how glucose is absorbed by intestinal epithelial cells(enterocytes).

100. Differentiate between summation,reverberation,convergence and divergence.



ALL THE VERY BEST OF GOD'S BLESSINGS, GRACES AND STRENGTH AS YOU PREPARE FOR YOUR END OF YEAR EXAMS,REMEMBER THAT YOU ARE MORE THAN A CONQUERER AND WE SHALL ALL MAKE IT TO SECOND YEAR WITH DISTINCTIONS IN J ESUS NAME! GOD BLESS YOU EVEN AS YOU WORK TOWARDS BECOMING THE GREAT DOCTOR HE CREATED YOU TO BE!