N. C Jindal Public School
Assignment- Biology
Human Physiology
Class XI

1. Exchange of gases occurs only in the alveolar region, why not in other parts of respiratory system? 1
2. Explain the term thecodont and diphyodont. 1
3. Why is AV bundle essential for the conduction of cardiac impulse? 1
4. How pulmonary circulation is different from coronary circulation? 1
5. Name the cell that secretes HCl. What is the function of HCl in digestive tract? 1
6. Where is pneumotaxic centre located in humans? What is its significance in breathing? 1
7. How portal circulation is different from coronary circulation? 1
8. Why SA node is called the pacemaker of the heart? 1
9. How atherosclerosis affects the body? 1
10. How is the permeability of DCT and CT controlled for regulating the water content inside body? 1
11. Name the types of joint present between the following (i) between pubic bones in pelvic girdle (ii) between phalanges 1
12. How does the eye regulate the amount of light that falls on the retina? 1
13. Terrestrial animals are generally either ureotelic or uricotelic, not ammonotelic. Why? 1
14. What is osteoporosis? Write the factors responsible for it. 1
15. Excretion of uric acid instead of urea is of great advantage to birds and reptiles. Why? 1

16. Give one example of each of the following (i) Fibrous joint (ii) Cartilagenous joint 1
17. How do you perceive the colour of an object? 1
18. How the loop of Henle helps in concentrating urine in terrestrial mammals? 1
19. What is uremia? How it can be cured? 1
20. How does exchange of respiratory gases takes place in the alveoli? 1
21. What is meant by Coronary Artery Disease (CAD)? 1
22. Why are human teeth referred to as heterodont and diphyodont? 1
23. What causes first heart sound? 1
24. How is the foetus with Rh-positive blood affected if the mother is Rh-negative? 1
25. Give one reason why white muscles get fatigued soon? 1
26. Which part of the ear functions to maintain body balance? 1
27. How does the eye regulate the amount of light that falls on the retina? 1
28. Where is hormone vasopressin (ADH) synthesized? 1
29. Due to some physiological reasons, the blood glucose level of an otherwise normal person has shot up above normal. How will this condition be returned to normal through hormone action? 1
30. Why blood group O is called universal donor? 1
31. Describe the role of any two proteases in the pancreatic juice. 2
32. Define the term (i) vital capacity (ii) Functional residual volume 2
33. Bile juice contains no digestive enzyme, yet it is important for digestion. Why? 2
34. How would the digestion of food be affected if the bile duct is completely blocked? 2
35. Define the term (i) vital capacity (ii) Functional residual volume 2
36. How sounds of lubb and dupp are produced in heart during cardiac cycle? 2

37. You had eaten boiled rice at lunch time. Make a list of enzymes it will be acted upon and the changes it will undergo before being absorbed in the intestine. 2

38. What is the role of Ca^{2+} and ATP in muscle contraction? 2

39. Name the two types of nephrons on the basis of their position in the kidney. How are they different from each other? 2

40. What is synapse? How does the nerve impulse cross the chemical synapse? 2

41. What is the role of Ca^{2+} and ATP in muscle contraction? 2

42. Draw the structure of sarcomere and label its parts. 2

43. How does bile help in digestion and absorption of fats? 2

44. Write a short note on ECG along with diagram. 2

45. What is Emphysema? How can this disease be prevented? 2

46. Name the ovarian hormones and give the function of any one of them. 2

47. Explain the depolarisation of the membrane of a nerve fiber. 2

48. How chemical synapse is different from electrical synapse? 2

49. Draw the structure of a human eye and label the following parts: (a) Cornea (b) Iris (c) Aqueous humor (d) Retina 2

50. Draw a typical ECG and describe its various components. 3

51. What is cardiac cycle? Describe the events that occur during joint diatole and ventricular systole. 3

52. You had eaten boiled rice at lunch time. Make a list of enzymes it will be acted upon and the changes it will undergo before being absorbed in the intestine. 3

53. Draw a typical ECG and describe its various components. 3

54. (a) Explain the term heterodont and diphyodont.

(b) Describe the role of any two proteases in the pancreatic juice. (1+2)

55. Explain how urine is formed in the nephron through filtration, reabsorption and secretion. 3

56. Draw the diagram of section of human eye and label the following parts in it (i) Choroid (ii) Fovea centralis (iii) Pupil (iv) Ciliary body 3

57. Explain the following 3

(a) Depolarisation of the membrane of a nerve fibre.

(b) Sound waves are converted into nerve impulse in the inner ear.

58. Explain how urine is formed in the nephron through filtration, reabsorption and secretion. 3

59. Describe the structure of forelimb along with a well labeled diagram. 3

60. Explain how CO_2 is transported in the human body. 3

61. Describe the digestion of carbohydrates in the alimentary canal. 3

62. Name one enzyme of gastric juice and one of pancreatic juice that are released as proenzymes in the human alimentary canal. Give the substrate and the end products of each. 3

63. Describe the type of joint present in between the following: (i) Atlas/Axis (ii) Between cranial bones (iii) Femur/Acetabulum 3

64. Name the hormone that regulates each of the following and mention the source of it. (i) Uretine contractions (ii) Fall of calcium ion level in blood (iii) Basal metabolic rate 3

65. (a) Write the role of diaphragm and intercostal muscles in the breathing process.

(b) Briefly describe emphysema.

(c) Where is pneumotaxic centre located in humans? What is its significance in breathing? 5

66. (a) Explain the mechanism of breathing in humans.

(b) Briefly describe emphysema. (3+2)

67.(a) Describe the structure of forelimb along with a well labeled diagram.

(b) Draw the structure of sarcomere and label its parts. (3+2)

68.(a) Draw the diagram of section of human eye and label the following parts in it (i) Sclera (ii) Pupil (iii) Ciliary body (iv)Fovea centralis

(b) What is synapse? How does the nerve impulse cross the chemical synapse? (3+2)

69. (a) Draw a diagram to show internal structure of human heart and label

(i) Right Auricle (ii) Pulmonary Vein (iii) Bicuspid Valve (iv) Aorta 3

(b) Write the role of diaphragm and intercostal muscles in the breathing process. 2

70.(a) Draw a well labeled diagram of forelimb along with pectoral girdle.

(b) What is the role of sarcoplasmic reticulum, myosin head, troponin and F-actin during contraction of striated muscles of humans? (3+2)