

BCM SCHOOL, BASANT AVENUE, DUGRI ROAD, LUDHIANA
CLASS X
ASSIGNMENT
SUBJECT - SCIENCE

	BIOLOGY	9
1.	Which part of the nephron is mainly responsible for the filtration of blood? a) Tubule b) Glomerulus c) Collecting duct d) Loop of Henle	1
	In each of the following questions, a statement of Assertion is given followed by a corresponding statement of Reason. Of the statements, mark the correct answer as (a) Both assertion and reason are true and reason is the correct explanation of assertion. (b) Both assertion and reason are true but reason is not the correct explanation of assertion. (c) Assertion is true but reason is false. (d) Assertion is false but reason is true.	
2.	Assertion (A): The left ventricle has a thicker muscular wall than the right ventricle. Reason (R): The left ventricle has to pump blood to all parts of the body at higher pressure.	1
3.	Assertion (A): Urine formation helps in maintaining the balance of water and salts in the body. Reason (R): The kidneys regulate the amount of water and dissolved substances excreted from the body.	1
4.	"Blood circulation in fishes is different from the blood circulation in human beings". Justify the statement.	2
5.	Explain the process of urine formation in a nephron under the following headings: a) Ultrafiltration b) Selective reabsorption c) Tubular secretion d) Formation and removal of urine	4
	CHEMISTRY	8
1.	Which of the following has the highest concentration of hydrogen ions (H^+)? a) Water b) Sodium hydroxide solution c) Hydrochloric acid solution d) Sodium chloride solution	1
2.	What happens when an acid reacts with a metal carbonate? Write the general reaction and give one suitable example.	2

3.	A student tested three solutions A, B and C using universal indicator and obtained the following observations: <table><tr><td> Solution pH </td></tr><tr><td> ----- -: </td></tr><tr><td> A 2 </td></tr><tr><td> B 7 </td></tr><tr><td> C 12 </td></tr></table> Answer the following questions: a) Identify which solution is strongly acidic, neutral and strongly basic. b) Which solution will have the highest concentration of H⁺ ions? Give a reason. c) If solution A is added gradually to solution C, what type of reaction is likely to occur? Name the reaction and explain the change in pH. d) Give one practical application of a neutralisation reaction in everyday life.	Solution pH	----- -:	A 2	B 7	C 12	5
Solution pH							
----- -:							
A 2							
B 7							
C 12							
	PHYSICS	8					
1.	Choose the correct option from the below which explains the reason for us to perceive the day time sky as blue. A. As sunlight passes through the atmosphere, shorter wavelengths, such as blue are scattered more than other colours. B. The sky appears blue because all colours are scattered equally, but blue light is stronger and more visible to the human eye. C. The blue colour of the sky is due to longer wavelengths like red and orange scattering more than shorter wavelengths, making blue stand out more. D. The atmosphere contains blue-coloured particles that give the sky its blue appearance.	1					
2.	(i) Why is red colour used as the stopping light at traffic signals? (ii) Two triangular glass prisms are kept together connected through their rectangular side. A light beam is passed through one side of the combination. Will there be any dispersion? Justify your answer.	2					

3.	An astronaut on the Moon looks at a star, while an observer on Earth looks at the same star. Analyze which observer will see the star at its true geometric position and explain why?	2
4.	A person has to keep reading material much beyond 25 cm say at 50 cm from the eye for comfortable reading. (i) Name the defect of vision he is suffering from. List two causes responsible for the rising of this defect. (ii) Draw a labelled diagram showing correction of this defect using eye glasses are the convergent or divergent of light. (iii) Calculate the number of lens required to restore his vision.	3