	BCM SCHOOL BASANT AVENUE, DUGRI LUDHIANA **XII ASSIGNMENT** **BIOLOGY**	
1	Who postulated an adapter molecule to link the genetic code and the amino acids? State its two functions.	
2	(i)What are the four levels at which gene expression is regulated in eukaryotic cell ? (ii)Name the regulatory gene of Lac − operon .	
3	Why does hnRNA undergo splicing? Where does splicing occur in the cell?	
4	If the base adenine constitutes 31% of an isolated DNA fragment, then what is the expected percentage of the base cytosine in it?	
5	i) Why does DNA replication occur in small replication forks and not in its entire length? (ii) Why is DNA replication continuous and discontinuous in a replication fork? (iii) State the importance of origin of replication in a replication fork.	
6	Answer the following questions based on Hershey and Chase's experiments (i) Name the kind of virus they worked with and why? (ii) Why did they use two types of culture media to grow viruses in? Explain. (iii) What was the need for using a blender and later a centrifuge during their experiments? (iv) State the conclusion drawn by them after the experiments.	
7	List the criteria of a molecule that can act as genetic material must fulfil. Which one of the criteria is best fulfilled by DNA or by RNA thus making one of them a better genetic material than the other?	
8	Study the flowchart given below and answer the questions that follows I. S-strain → into mice → mice die II. R-strain → into mice → mice live III. Heat-killed S-strain + Live R-strain → into mice → A IV. Heat-killed S-strain + DNase + Live R-strain → into mice → B (i) Name the organism and differentiate between its two strains S and R, respectively. (ii) Write the result A and B obtained in step III and IV, respectively. (iii) Name the scientist who performed the.steps I, II and III. (iv) Write the specific conclusion drawn from the step IV.	