

	<p>6. Epigenetics refers to changes in:</p> <p>a. Gene expression c. Gene structure</p> <p>b. DNA sequence d. All of these</p>			
Q.2	<p>True or False. Justify your answer (no marks without justification).</p> <ol style="list-style-type: none"> Ribosomes are non-specific in a sense they can synthesize any polypeptide. Capping and tailing take place in prokaryotes. Operons are universally present in all organisms. In eukaryotes, transcription and translation take place in the same compartment. Single pre-mRNA being processed into a number of products is known as polyadenylation. 	5	CO1, CO2, CO3	BT1, BT3, BT4
Q.3	<p>Answer in brief (5 x 2 marks = 10 marks)</p> <ol style="list-style-type: none"> Why is genetic code said to be degenerate? What do AUG and UAG codons stand for? What is an anticodon, and where can it be found? Enlist the steps taken as a part of RNA processing What is epigenetics? 	10	CO1, CO2, CO3	BT1, BT3, BT4
Q.4	<p>Answer the following (Any Three) (3 x 3 marks = 9 marks)</p> <ol style="list-style-type: none"> Explain induction and repression regarding prokaryotic gene regulation. What is an operon, and who discovered it? Explain what is meant by gene expression. What are the mechanisms by which alternate splicing occurs? Draw a schematic diagram explaining the mechanism of 5' capping. 	9	CO1, CO2, CO3	BT1, BT3, BT4
Q.5	<p>Answer in detail (Any Two) (2 x 5 marks = 10 marks)</p> <ol style="list-style-type: none"> What is a 30s pre-initiation complex? Explain the role of the Shine-Dalgarno sequence in its formation. Explain the negative and positive regulation of lac operon briefly. Explain the mechanism of snRNP based splicing. Describe any one type of PTM. 	10	CO1, CO2, CO3	BT1, BT3, BT4

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