

**BCM SCHOOL BASANT AVENUE , DUGRI LUDHIANA
XII BIOLOGY
ANSWER KEY**

1	A. A wardrobe
2	C. Both rough and smooth colonies would be seen.
3	B. Both A and R are true, but R is not the correct explanation for A.
4	<p>Both processes involve the copying of a DNA molecule. Both processes take place in the nucleus of the cell.</p> <p>: location: DNA strands formed after replication continue to stay in the nucleus whereas mRNA formed after transcription moves/is exported to the cytoplasm. lifespan: DNA strands formed after replication continue to remain in the nucleus as long as the cell is living whereas mRNA is degraded after translation. (: DNA replication: S phase DNA transcription: throughout the cell cycle</p>
5	<p>: - Identify the complementary strand 3' - ATTGCTAGCATGTACCTA - 5' - Find the mRNA sequence: UAA CGA UCG UAC AUG GAU</p> <p>: No The first codon of this sequence codes for a stop codon.</p>
6	<p>A translation unit is the sequence of mRNA that codes for an amino acid sequence (polypeptide) with a start codon on one end and a stop codon on the other.</p> <p>: Charging of tRNA: Arginine is charged in the presence of ATP and linked to its specific tRNA molecule. The small subunit encounters the mRNA. The large subunit, which has two sites for tRNAs to bind, which have the initiator tRNA and the arginine tRNA bound to it. Here, methionine and arginine form a peptide bond with each other in the presence of a catalyst before the ribosome moves ahead.</p>
7	<p>: Glucose in the body is used by cells to produce energy, which causes glucose levels in the blood to reduce and signal the pancreas to produce less insulin, thereby reducing the transcription and translation of genes coding for insulin. The presence of mutagens in the environment impacts the expression of genes related to growth such that excessive uncontrolled growth begins in some cells, leading to cancer .</p>