

**CHOITHRAM SCHOOL MANIKBAGH INDORE**

**CLASS XII Session: 2018-19**

**Subject: Biotechnology**  
**Allotment Date: 07/12 /2018**

**Assignment No: IV**  
**Submission Date: 16/12/2018**

<b>S.No</b>	<b>QUESTION</b>	<b>MARKS</b>	<b>LEVEL</b>
1.	Children eating golden rice are unlikely to suffer from night blindness. Why?	1	Knowledge
2.	With an equation, show that doubling time of microbes and their specific growth rate are inversely proportional?	1	Understanding
3.	Why inverted microscopes are required in animal cell culture laboratory?	1	hot
4.	Name the bacterium toxin which is used to engineer crops resistant to bollworms.	2	knowledge
5.	Describe the methods for scale up process of animal cell culture	2	understanding
6.	Differentiate between 1. Normal cell and cancer cell 2. finite and continuous cell lines	2	logic
7.	Give an account of any two compounds which are modified or produced through plant molecular farming	2	Hot
8.	Explain the process of somatic embryogenesis	3	understanding
9.	What is a callus and how can callus cultures be recommended for prolonged periods? List two applications of callus culture.	3	Multi conceptual
10.	What are secondary metabolites? What roles do they play in the host? Name any two secondary metabolites produced by microbes and their application in the field of medicine.	3	Analysis
11.	Describe the methods for scale up process of animal cell culture. What are stem cells? What is the difference between ES and adult stem cells? How and why embryonic stem cell culture is used to produce chimera	5	Logic
12.	a) <i>Agrobacterium Tumefaciens</i> is regarded as nature's genetic engineer. Comment. Enlist the major steps to introduce novel genes into plants using <i>agrobacterium</i>	5	knowledge