



# ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION



## WORKSHEET – 61

Class: XII

Sub: Biological Science

Date: 23.01.2021

**Topic: Ch 11 (part 3 ) Biotechnology : Gel electrophoresis and Transformation with recombinant DNA**

**F.M. : 15**

**Choose the correct option:**

**(1x15=15)**

1. The technology used in Recombinant DNA technology to isolate and separate DNA fragments for transfer is called:  
a) Gel electrophoresis b) PCR c) gene cloning d) transformation
2. The DNA fragments have ..... charge on them.  
a) positive charge b) negative charge c) no d) dual
3. The medium or matrix on which are forced to move is made up of .....  
a) agar agar b) gelatine c) agarose d) nucleus
4. The separated DNA fragments can be visualized only after staining the DNA with a compound known as .....  
a) ethidium bromide b) ethidium iodide c) methyl orange d) methylene blue
5. The compound ethidium bromide followed by the exposure to UV rays form .... Colour bands of DNA on agarose gel.  
a) Red b) blue c) orange d) green
6. The process of separation and extraction of DNA from the agarose gel is called:  
a) spooling b) elution c) fragmentation d) all of these
7. The following bacterium is commonly used to infect and transfer the DNA fragment to a plant cell  
a) *Agrobacterium tumifaciens* b) *Bacillus subtilis* c) *Bacillus clausii* d) *Bacillus thuringiensis*
8. *Agrobacterium tumifaciens* causes the following change in the plant cell it infects:  
a) Normal plant cell changes into cancerous cell b) plant cell produces chemicals for pathogen  
c) T-DNA is transferred to the plant DNA d) All of these
9. The part of Ti plasmid which gets integrated into plant cell DNA is:  
a) ori region b) T-DNA c) tetracycline gene d) ampicillin resistant gene
10. The disarmed Ti plasmid commonly used as vectors is:  
a) pBR322 b) pBIN19 c) BR32 d) all of these

11. The ability of a cell to take up the 'naked' DNA from the environment is called:  
a) competence b) transforming principle c) transformation d) none of these
12. The cations used during recombinant technology which increase the permeability of cell membranes and cell wall:  
a) zinc b) sodium c) calcium d) cadmium
13. In the following method the recombinant DNA is directly injected into the nucleus of the animal cell:  
a) micro injection b) gene gun c) biolistics d) none of these
14. In biolistics method of gene transfer the high velocity micro particles of ..... coated with DNA is bombarded to the target cell.  
a) silver b) gold c) tungsten d) both (b) and (c)
15. The process of inactivation of a gene for the synthesis of the enzyme due to insertion of a DNA fragment is called:  
a) insertional inactivation b) transcription c) gene inactivation d) gene silencing

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