

PARUL UNIVERSITY
PARUL INSTITUTE OF APPLIED SCIENCES
MID SEMESTER INTERNAL EXAMINATION, MARCH 2020
B. Sc. Semester 6

Subject: Biotechnology

Paper Code:(11102351)Title of the paper:Agricultural Biotechnology

Date:5/ 3/2020

Time:12:00 pm to 1:30pm

Maximum Marks: 40

Instructions:

- 1. All questions are compulsory and options are given in first and second question only.**
- 2. Numbers to the right of question indicate the marks of respective question.**

- Q. 1** Attempt any one question of the following. **(08)**
 (i) Agrobacterium tumefaciens transformation,
 (ii)What is plasticity? Describe-role in plant development,
- Q. 2** Attempt any three questions of the following. **(12)**
 (i)Explain- Transformation by particle bombardment,
 (ii)what are the different strategy for Herbicide resistance plant
 (iii)describe pathway for goldenrice
 (iv)Short note on Bt toxin
 (v)shortnote on Photoperiodism and its significance,
- Q. 3** Do as directed. Attempt all five questions. **(05)**
 (i)What is Vernalization?
 (ii) Which is the Electrical gene transfer method?
 (iii) Full name of Ti & Ri plasmid
 (iv)what is the role of vir genes?
 (v)What is the full name of PEG
- Q. 4** Write correct option in your answer sheet for following 15 multiple **(15)**
 choice questions.

MCQ 1	The response of plant to the relative length of light and _____ period is called photoperiodism.			
	(A)	Dark	(B)	Light
	(C)	Both a&b	(D)	None of above
MCQ 2	Phytochrome is involved in			
	(A)	Geotropism	(B)	Photoperiodism
	(C)	Phototropism	(D)	Photorespiration
MCQ 3	Which of the following statement are true for Agrobacterium mediated gene transfer method			
	(A)	Vir genes	(B)	T-DNA borders
	(C)	Ori C	(D)	All of these
MCQ 4	Vernalization is a process that _____?			
	(A)	Promote seed maturation	(B)	Enhance maturity in plants

	(C)	Initiate fertilization	(D)	Promote flowering
MCQ 5	Which of the following factors influence the process of flowering			
	(A)	Acidity of soil	(B)	Water in the soil
	(C)	Amount of green pigment	(D)	Photoperiod
MCQ 6	Photoperiodism is associated with the formation of			
	(A)	Chlorophyll	(B)	Florigen
	(C)	Auxin	(D)	Gibberellin
MCQ 7	Main objective of the production/use of herbicide resistant GM crops is to			
	(A)	eliminate weeds from the fields without any use of manual labour	(B)	eliminate weeds from the fields without any use of herbicides
	(c)	encourage eco-friendly herbicides	(D)	reduce herbicide accumulation in food articles for health safety
MCQ 8	Which of the following hormones can replace vernalization?			
	(A)	Auxin	(B)	Ethylene
	(C)	Gibberellins	(D)	Cytokinins
MCQ 9	Maximum growth takes place in			
	(A)	Green light	(B)	Red light
	(C)	Blue light	(D)	Ultraviolet light
MCQ 10	Electroporation is also used for taking up the DNA by the cells. It constitutes of _____			
	(A)	inserting the DNA into the cells via an electric shock	(B)	increased efficiency than both natural and chemical methods
	(C)	causing the least amount of damage in comparison to other methods	(D)	decreased efficiency than both natural and chemical methods
MCQ 11	Which of the following statements are true for agrobacterium mediated gene transfer			
	(A)	Vir genes are essential for gene transfer	(B)	T-DNA borders are essential for gene transfer
	(C)	both a and b	(D)	none of these
MCQ 12	Transformation carried out using a particle gun is known as biolistic transformation. It falls under which category of transformation?			
	(A)	Physical	(B)	Chemical
	(C)	Electroporation	(D)	Natural
MCQ 13	Production of which enzyme was blocked in FlavrSavr tomato			
	(A)	Ligase	(B)	invertase
	(C)	Peptidase	(D)	polygalactouronase
MCQ 14	Golden rice is			
	(A)	a type of rice grown along the Yellow river in China	(B)	a transgenic rice having gene for p-carotene (pro-vitamin-A)
	(C)	normal variety of rice with golden coloured grains	(D)	wild and long sized rice having golden tint

MCQ 15	Bt toxin kill insects by			
	(A)	inhibiting protein synthesis	(B)	generating excessive heat
	(C)	creating pores in the midgut epithelial cells, leading to cell swelling and lysis	(D)	obstructing a biosynthetic pathway

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