PARUL UNIVERSITY

PARUL INSTITUTE OF APPLIED SCIENCES

MID SEMESTER INTERNAL EXAMINATION,SEPTEMBER 2018

B. ScSemester V

Subject: Biotechnology

Paper Code:11102304 **Title of the paper: Biotechnology for Human Welfare**

Date:08 /09/2018 **Time:11:30 am to 1:00 pm**

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. (i) How was Golden Rice developed? Describe the genetic basis. (ii)What are Probiotics? List down their characteristics and possible modes of action.	**(08)**
Q. 2	Attempt any three questions of the following. (i)What are GMOs. Enlist three applications (ii) Write a short note on DNA Fingerprinting. How is it applied in paternity claims? (iii) What is biofortification? How can protein content of a crop be improved by transgenic approach? (iv)What are the pros and cons of GMOs? (v) Why are probiotics prescribed along with antibiotics? How do they help in recovery of a patient?	**(12)**
Q. 3	Do as directed. Attempt all five questions. (i)Expand VNTR (ii) Mention two examples of probiotics (iii) Define Bioterrorism (iv) True or False: Lactoferrin is the human milk protein that has been successfully developed in Rice (v) How is PCR helpful in DNA Profiling?	**(05)**
Q. 4	Write correct option in your answer sheet for following 15 multiple choice questions.	**(15)**

MCQ 1	β carotene gene has been cloned in..... other than rice by Monsato			
	(A)	Canola	(B)	Mustard
	(C)	Maize	(D)	*Arabidopsis*
MCQ 2	For fighting Iron Deficiency, Ferritin genes have been cloned in:			
	(A)	Rice	(B)	Maize
	(C)	Millets	(D)	Bajra
MCQ 3	To improve Protein Quality, AmA1 gene has been isolated from:			
	(A)	*Pheseolus vulgaris*	(B)	*Amaranthus hypochondrus*
	(C)	*Aspergillus fumigatus*	(D)	None of the above
MCQ 4	Golden rice overcomes:			
	(A)	Iron Deficiency	(B)	Vitamin A Deficiency
	(C)	Vitamin B 12 Deficiency	(D)	Protein Energy Malnutrition
MCQ 5	Lycopene is converted into β carotene by:			

	(A)	Phytoene Synthase	(B)	Phytoene Desaturase
	(C)	Rice Endogenous Enzymes	(D)	None of the above
MCQ 6	The process by which Pharmaceuticals and therapeutics can be harvested from transgenic plants animals is called			
	(A)	Bioremediation	(B)	Bio curing
	(C)	Biopharming	(D)	Bioleaching
MCQ 7	What is NOT true about Gene Therapy			
	(A)	It helps in treatment of defective genes	(B)	It involves delivery of corrected gene through retroviral vehicle
	(C)	Modern day RDT helps in cutting and pasting corrected genes	(D)	It has never been successful so far and purely imaginative
MCQ 8	The conversion of γ Tocopherol to α tocopherol is catalyzed by			
	(A)	γ TMT	(B)	α TMT
	(C)	β TMT	(D)	Ψ TMT
MCQ 9	Which of the following is not a transgenic?			
	(A)	Bt Cotton	(B)	Bt Brinjal
	(C)	Golden Rice	(D)	Brown Rice
MCQ 10	Transgenic plants are helpful in			
	(A)	Improvement of nutritional quality	(B)	Herbicide Resistance
	(C)	Insect Resistance	(D)	All of the above
MCQ 11	"Transgenics v/s conventional breeding" Which statement is wrong of the following?			
	(A)	Conventional breeding yields perfect combination of desirable genes	(B)	Conventional breeding is a long procedure and takes many number of generations to yield desired result
	(C)	Conventional breeding carries a risk of inclusion of risky genes into hybrid	(D)	Precision in gene acquisition in transgenic approach is a benefit
MCQ 12	Technique of inserting DNA (Deoxyribonucleic Acid) into animal cells is known as			
	(A)	Microinjection	(B)	Macroinjection
	(C)	Genome Injection	(D)	Fusion Injection
MCQ 13	DNA fingerprinting refer to			
	(A)	Technique used for identification of fingerprints of individuals	(B)	Printing the DNA Zinc fingers
	(C)	DNA analysis by Sequencing	(D)	Technique used for molecular analysis of different specimens of DNA
MCQ 14	Golden rice is a transgenic crop of the future with the following improved trait			
	(A)	Insect resistance	(B)	High protein content
	(C)	High vitamin A content	(D)	High lysine content
MCQ 15	Probiotics are			
	(A)	cancer inducing microbes	(B)	safe antibiotics
	(C)	new kind of food allergens	(D)	live microbial food supplement

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