

Exam Date & Time: 28-Sep-2020 (02:00 PM - 05:45 PM)



PSG COLLEGE OF ARTS AND SCIENCE

Note: Writing 3hrs: Checking & Inserting Image : 30mins

MSc DEGREE EXAMINATION MAY 2020
(Fourth Semester)

Branch - APPLIED MICROBIOLOGY
APPLIED BIOTECHNOLOGY [19MBP21]

Marks: 75

Duration: 210 mins.

SECTION - A

Answer all the questions.

- 1) The antibodies in a well are produced by the same B cell, they will be directed towards the same epitope in _____
(i) Polyclonal antibodies
(ii) Monoclonal antibodies
(iii) Both
(iv) None of the these (1)
- 2) Protropin is an Engineered _____
(i) Biopolymer
(ii) antibiotic
(iii) monoclonal antibody
(iv) growth hormone (1)
- 3) Virus resistant transgenic plants can be developed by the expression of
(i) Cowpea trypsin inhibitor
(ii) Crystalline toxin protein
(iii) Defective movement protein
(iv) Snowdrop lectin (1)
- 4) To produce plants that are homozygous for all traits, the best choice is
(i) Protoplast culture
(ii) Cell suspension culture
(iii) Anther and pollen culture
(iv) apical meristem culture (1)
- 5) Which of the following mice are used for immunization in the hybridoma technology
(i) Swiss mice
(ii) Balb/c mice
(iii) Out bred mice
(iv) Indigenuos mice (1)
- 6) Transgenic cattle milk containing human proteins, which may help in the treatment of
(i) Rheumatoid arthritis
(ii) Huntington's disease (1)

- (iii) Emphysema
- (iv) Polio

- 7) What is Gene therapy?
 (i) It is the process of elimination of defective gene, from the patient
 (ii) It is the process in which the patient is treated with gene product
 (iii) In this approach, normal and functional gene copies of the defective gene are introduced into the patient (1)
 (iv) None of these
- 8) Which of the following is incorrect about a micro array?
 (i) It is a slide attached with a high- density array of immobilized DNA oligomers representing the entire genome of the species under study
 (ii) Array of immobilized DNA oligomers cannot be cDNAs (1)
 (iii) Each oligomer is spotted on the slide and serves as a probe for binding to a unique complementary cDNA
 (iv) It is the most commonly used global gene expression profiling method
- 9) Which of the following is not required for the biodegradation process?
 (i) Micro- organism
 (ii) Environment conditions
 (iii) Adhesives (1)
 (iv) Substrate
- 10) A new way to process milk so that there is no fat in any cheese made from it
 (i) Copy rights
 (ii) Trade mark
 (iii) Patent (1)
 (iv) Industrial designs

SECTION - B

Answer all the questions.

- 11) Analyze the account on production of biopolymers? Add an account on the genetic engineering aspects to improve production. (5)
- a)
 [OR] Discuss how mammalian growth hormones produced through rDNA technology. (5)
 b)
- 12) Explain about the reporter genes for plants. (5)
- a)
 [OR] How are stress tolerance and ageing control being developed recombinant plants. (5)
 b)
- 13) State the methods of In vitro fertilization. Give their significance. (5)
- a)
 [OR] Highlight the uses of stem cells in animal gene transfer techniques. (5)
 b)
- 14) Illustrate an account on RFLP analysis. (5)

- a)
[OR] Evaluate about the principle of Micro array and mention their applications. (5)
b)
- 15) Produce an account on GMO and justify their impact in the environment. (5)
- a)
[OR] Comment on Patenting of genes and life forms. (5)
b)

SECTION - C

Answer all the questions.

- 16) Critically appraise the methods of production of engineered Monoclonal antibodies. (8)
- a)
[OR] Determine how novel recombinant antibiotics produced. Explain. (8)
b)
- 17) Elucidate the development of insect resistance in plants. (8)
- a)
[OR] Analyze the role of various molecular markers used in rDNA technology. (8)
b)
- 18) Outline the process of development of Transgenic mice. Give their applications. (8)
- a)
[OR] Compare and analyze the techniques used in animal cell culture. (8)
b)
- 19) Assess the methods of Gene therapy? (8)
- a)
[OR] Justify the advantages of Gene expression profiling done. (8)
b)
- 20) Comment on the concepts and conditions of IPR. (8)
- a)
[OR] Criticize the use of genetically modified organism used for biodegradation. (8)
b)

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