

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2022
(Sixth Semester)

Branch – MICROBIOLOGY

APPLIED BIOTECHNOLOGY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

1. Alginate, a polysaccharide composed of
 - a) β -D-mannuronic acid and α -L-guluronic acid
 - b) β -D-mannuronic acid and Rhamnose
 - c) β -D-mannuronic acid and glutamate
 - d) Rhamnose and glutamate
2. Genetic material from the COVID-19 virus is placed in a modified version of a different virus
 - a) Subunit vaccine
 - b) Attenuated vaccine
 - c) Vector vaccine
 - d) Live Vaccine
3. The chlorobiphenyl degrading bacteria are promising candidates for remediation
 - a) Rupper Degradation
 - b) DDT Degradation
 - c) Organophosphate Degradation
 - d) Atrazine Degradation
4. PHAs are polyesters
 - a) *Cupriavidus necator*
 - b) E.coli
 - c) *Aspergillus* sp
 - d) *Clostridium* sp
5. The *bar* gene introduction in plants for tolerance of
 - a) Basta
 - b) Stress
 - c) Insects
 - d) TMV
6. Chitinase gene introduction in plants for-----resistant to
 - a) Phytophthora
 - b) Rhizotonia
 - c) Pseudomonas
 - d) Puccinia
7. Transgenic fish produced by microinjection of targeted gene into
 - a) Targeted site
 - b) Gamete
 - c) Oocyte
 - d) Targeted fish
8. Transgenic cow used as bioreactor for
 - a) Anti freeze protein
 - b) Lactoferrin
 - c) Beta lacto globulin
 - d) Anti trypsin

Cont...

9. IPR developed for crop varieties is called
 - a) Farmer's right
 - b) Patent
 - c) GEAR
 - d) Plant breeder's right
10. Government of India introduced Patent Amendment ordinance in
 - a) 1970
 - b) 1999
 - c) 1995
 - d) 1997

SECTION - B (35 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

11. a Write brief notes on enzymes of therapeutic value.
(OR)
b Give a short account on peptide vaccines.
12. a Discuss the role of micro-organisms in production of bioplastics.
(OR)
b Illustrate the degradation of xenobiotics with one suitable example.
13. a List out the strategies used in development herbicide resistant plants
(OR)
b How do you construct stress tolerant plants? Explain with an example.
14. a Discuss the use of biotechnology in the field of diagnostic medicine.
(OR)
b List out the useful products that can be obtained by transgenic animals.
15. a Elaborate the biosafety guidelines in India.
(OR)
b What are plant breeder rights and farmer's rights? Discuss

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16. Explain the production of interferons by microbial biotechnology.
17. Give a detailed account on microbial production of melanin and its applications.
18. How a transgenic plant can be used as a bioreactor for producing important drugs? Elaborate.
19. What is transfection? Describe the different methods of transfection used for animal biotechnology.
20. Discuss about patenting of biological material.

Z-Z-Z

END