

Exam Date & Time: 29-Sep-2020 (10:00 AM - 01:45 PM)



PSG COLLEGE OF ARTS AND SCIENCE

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

BSc DEGREE EXAMINATION MAY 2020
(Sixth Semester)

Branch - BIOTECHNOLOGY

APPLIED ASPECTS OF BIOTECHNOLOGY [14BTU26]

Marks: 75

Duration: 210 mins.

SECTION A

Answer all the questions.

- 1) What are quantum dots? (2)
- 2) What are dendrimers? (2)
- 3) What is an induced pluripotent stem cell? (2)
- 4) What is GVHD? (2)
- 5) What are DNA nanobots? (2)
- 6) What is siRNA? (2)
- 7) What is tissue engineering? (2)
- 8) What is a xenograft? (2)
- 9) Define photolysis. (2)
- 10) Define a fuel cell. (2)

SECTION B

Answer all the questions.

- 11) Explain the structure and applications of carbon nanotubes. (5)
 - a)
 - [OR] Explain the principle and applications of AFM. (5)
 - b)
- 12) Write down the applications of stem cells in treating neuronal diseases. (5)

- a)
[OR] Discuss in detail about cloning and ethical issues. (5)
b)
- 13) Write short notes on RNA aptamers and their clinical applications. (5)
- a)
[OR] Explain briefly the protein based therapy for Alzheimer's disease. (5)
b)
- 14) Outline the strategies involved in skin replacement. (5)
- a)
[OR] Explain briefly about artificial organs and their merits and demerits. (5)
b)
- 15) Narrate the strategies involved in the production of hydrogen from waste materials. (5)
- a)
[OR] Briefly explain about the categories and concepts of bio refinery. (5)
b)

SECTION C

Answer 3 out of 5 questions.

- 16) Explain in detail about the application of Nanoparticle in cancer detection, imaging and therapeutics. (10)
- 17) Describe in detail about bone marrow transplantation. (10)
- 18) Outline the importance of RNAi therapeutics in treating cancer. (10)
- 19) Explain in detail about bone tissue engineering. Add a note on its limits and challenges. (10)
- 20) Discuss in detail about the source and types of biomass and conversion. (10)

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