

Seat No. : \_\_\_\_\_

**JG-102**

January-2021

**B.Sc., Sem.-III**

**201 : Biotechnology  
(Concepts in Biotechnology)  
(New Syllabus)**

**Time : 2 Hours]**

**[Max. Marks : 50**

- Instructions :**
- (1) **All** questions in Section – I carry equal marks.
  - (2) Attempt any **three** questions in Section – I.
  - (3) Question – **9** in Section – II is **compulsory**.
  - (4) Draw figures where necessary. Show question number against each answer.
  - (5) Figures in right are marks.

**Section – I**

1. (A) Define Biotechnology. Write major areas of biotechnology. 7  
(B) Explain aspects of Agriculture and Environmental Biotechnology. 7
2. (A) Write a note on Health and Medical Biotechnology. 7  
(B) Discuss scope and impact of Biotechnology during Covid-19 pandemic. 7
3. (A) Write a note on Biotechnology Government policies in India. 7  
(B) What is Flavr-savr tomato ? Discuss its case study. 7
4. (A) Describe the role of DBT and CSIR in promotion of Biotechnology. 7  
(B) Discuss case study of any one Biotechnology industry. 7
5. (A) Explain importance of Entrepreneurship development in Biotechnology sector. 7  
(B) Write significance of automation in Biotechnology sector. 7
6. (A) Discuss briefly GLP. 7  
(B) Discuss role of ISO certification in Biotechnology industry. 7

7. (A) Describe Social, ethical and legal aspects of Human cloning. 7  
 (B) Explain genetically modified organisms and its hazardous effects. 7
8. (A) Discuss threats from GM crops. 7  
 (B) Explain significance of Genetic counselling in India. 7

### Section – II

9. Answer in short : (any **eight**) 8
- (1) Define genetic privacy.
  - (2) What is IPR ?
  - (3) Give any two contributions of modern Biotechnology.
  - (4) Write full form of 1) GSBTM 2) WTO.
  - (5) What is hazardous waste ? Give any two examples.
  - (6) Name any two CSIR labs in India.
  - (7) What is Humulin ?
  - (8) Name two applications of stem cell technology.
  - (9) Define GAMP and GILSP.
  - (10) Define Patent of gene.
  - (11) How aquaculture is useful in Biotechnology ?
  - (12) What is Bt-cotton ?
  - (13) Define food and nutrition as area of Biotechnology.
  - (14) Give one example of classical Biotechnology.
  - (15) State two challenges associated with growth of Biotechnology industry.
  - (16) Where DBT is located in India.
  - (17) State importance of R&D in Biotechnology industry.
  - (18) Name four pathogenic micro-organisms.
  - (19) What is GMO ?
  - (20) What is the role of GEA committee ?
  - (21) State important provision of import and export of hazardous micro organisms in India.
  - (22) What is IPR ?
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**Section – I**

1. (A) What are the major areas of Biotechnology and challenges in the near future ? 7  
(B) Describe impact of Biotechnology on National and Global economies. 7
2. (A) Give definition of Biotechnology and contribution from related disciplines. 7  
(B) Describe major areas of Biotechnology. 7
3. (A) Explain different Government policies to promote Biotechnology. 7  
(B) Describe the role of DBT and CSIR in promotion of Biotechnology. 7
4. (A) Enlist top companies working in Biotechnology at State and National level. 7  
(B) Write a short note on GSBTM. 7
5. (A) Discuss role of ISO certification in Biotechnology industry. 7  
(B) Explain importance of Quality assurance in Biotech companies. 7
6. (A) Write significance of automation in Biotechnology sector. 7  
(B) Discuss briefly GMP. 7

7. (A) Write a note on TRIPS and WTO. 7  
 (B) Illustrate Human cloning and state its therapeutic role. 7
8. (A) Discuss threats from GM crops. 7  
 (B) Explain significance of Genetic counselling in India. 7

### Section – II

9. Answer in short : (any **eight**) 8
- (1) Name Top 5 leading industries of Gujarat
  - (2) What is ICGEB ?
  - (3) What is the role of BIS ?
  - (4) Name the committee which gives GM approval.
  - (5) Define TQM.
  - (6) State legal aspect of stem cell technology.
  - (7) Define Patent of gene.
  - (8) What is Human cloning ?
  - (9) What is hazardous waste ?
  - (10) Name any two important Biotech promotional agencies at National level.
  - (11) Enlist four CSIR labs in India.
  - (12) Define GAMP and GILSP.
  - (13) Define food and nutrition as area of Biotechnology.
  - (14) Give one example of classical Biotechnology.
  - (15) State two challenges associated with growth of Biotechnology industry.
  - (16) Where DBT is located in India ?
  - (17) State importance of R&D in Biotechnology industry.
  - (18) Name four pathogenic micro-organisms.
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