

**B.Sc. MICROBIOLOGY
SIXTH SEMESTER
BIOETHICS & IPR
BMB – 604**

(Use Separate Answer Scripts for Objective & Descriptive)

Duration : 3 hrs.

Full Marks : 70

(PART-A: Objective)

Time : 20 min.

Marks : 20

Choose the correct answer from the following:

1X20=20

1. Mr. X from Kashmir filed a patent in 2018 in _ office but withdrew it same year. In 2021, he refined his work and filed for the same patent in _ office
 - a. Delhi, Delhi
 - b. Delhi, Kolkata
 - c. Delhi, Head
 - d. Both b and c
2. "Appellation of origin" is related to
 - a. Patent
 - b. Copyright
 - c. GI
 - d. Trademark
3. For protection of Indian bio-resources, the country has legislated _
 - a. Convention of Biological Diversity
 - b. Biological Diversity Act
 - c. CBD
 - d. Both a and c
4. Patent of addition is applicable on a
 - a. Licensed patent
 - b. Valid patent
 - c. Patent under examination
 - d. Expired patent
5. A new phone was launched by Samsung today but even an employee of the company didn't know about it because it was a _
 - a. Business strategy
 - b. He was not an important staff
 - c. Trade secret
 - d. All of the above
6. Copyright is granted for
 - a. 60 years
 - b. 25 years
 - c. Lifetime
 - d. Both a and c
7. Mr X had filed for a patent on 20 June 2014 but he was not informed about the status of his application till 20 June 2016 and his application was cancelled on 20 June 2018. This was because
 - a. He did not request examination
 - b. Form 18 was not complete
 - c. 48 months of priority date expired
 - d. All of the above
8. Patent is a _ right
 - a. Territorial
 - b. Global
 - c. International
 - d. None

9. The full form of LMO is
- | | |
|-----------------------------|-----------------------------|
| a. Live Modified Organism | b. Latent Modified Organism |
| c. Living Modified Organism | d. Least Modified Organism |
10. The acronym HEPA (as in HEPA filter) stands for
- | | |
|------------------------------------|---------------------------------|
| a. High Efficiency Particulate Air | b. High Energy Particles in Air |
| c. Hepatitis A | d. High Evaluation Protection |
11. Which of the following statements about PPE are correct
- | | |
|-------------------------------------------------------------|-------------------------------------------------------|
| a. PPE should be worn and stored only inside the laboratory | b. Employees utilizing PPE should be trained properly |
| c. PPE should be chosen based upon the work being completed | d. All of the above |
12. This is not a genetically modified organism (GMO)
- | | |
|--------------|----------------|
| a. Bt Cotton | b. Golden Rice |
| c. Tracy | d. Pomato |
13. As a result of genetically modified crops, chemical used on farms has:
- | | |
|--------------------------------------------|-----------------------------------------------------------------------|
| a. Gone up dramatically | b. Gone down dramatically |
| c. Gone up on some but no change on others | d. Gone down on some crops but there is little or no change on others |
14. When an organism is modified using gene technology, the organism is then referred to as a
- | | |
|----------------------------------|-----------------------------|
| a. Generally modified organism | b. Very modified organism |
| c. Genetically modified organism | d. Gently modified organism |
15. The first plant that was modified by genetic engineering was produced in a laboratory in:
- | | |
|---------|---------|
| a. 1954 | b. 1964 |
| c. 1984 | d. 1994 |
16. The AERB was established in
- | | |
|------------------|-------------------|
| a. November 1983 | b. September 1983 |
| c. November 1980 | d. November 1986 |
17. AERB was constituted by:
- | | |
|-----------------------------|-----------------------|
| a. Prime Minister of India | b. President of India |
| c. Chief Minister of States | d. Governor of States |
18. The headquarter of AERB is in:
- | | |
|--------------|------------|
| a. Delhi | b. Mumbai |
| c. Bangalore | d. Kolkata |
19. The full form SARCOP:
- | | |
|--------------------------------------------------|-------------------------------------------------|
| a. Smart Review Committee for Operating Plants | b. Safety Review Committee for Operating Plants |
| c. Safety Review Committee for Processing Plants | d. None of these |

20. AERB receives advice from Advisory Committee on Nuclear Safety (ACNS) which is composed of experts from
- a. AERB
 - b. DAE
 - c. AERB, DAE and institutions outside the DAE
 - d. AERB and DAE

= = *** = =

(PART-B : Descriptive)

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. What is the Cartagena Protocol on Biosafety? Explain its objectives and main features. 4+6=10
2. a. Explain the process of Patent filing. 5
b. Briefly describe Patent Revocation according to Indian Patent Law. Why is GI necessary and how is it filed and by whom? 1+4=5
3. Define Biosafety. Describe how are the bioagents classified into different risk groups on the basis of their relative risk? 2+8=10
4. What are the International Regulatory bodies for Biosafety? Explain them. 10
5. a. According to TRIPs how are plant varieties agreement protected? What are salient features of CBD? Why was Madrid Agreement signed? 2+4+1=7
b. Can DNA sequences be patented? Explain 1+2=3
6. What is patent and what are the criteria of patentability? Explain the Diamond vs Chakraborty case in detail 1+2+7=10
7. What is the Atomic Energy Regulatory Board (AERB)? What are the functions of AERB? 5+5=10
8. a. What are the rights of a patent holder? With the help of a case study, explain how inventive step is a patentability criterion? 2+6=8
b. What is biopiracy and bioprospecting? 2

= = *** = =