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SECTION 'C'

12×4=48

(Long Answer Type Questions)

**Note :** Answer the following questions in 500 words.

1. Describe the technique used in Biotechnology.

Or

What is biotechnology and why it is important ?

2. Explain in detail about function of endoplasmic reticulum.

Or

Discuss the structure and function of mitochondria.

3. Discuss about cytoskeleton.

Or

Write about cell cycle regulation.

4. Describe the mechanism of protein synthesis in prokaryotes.

Or

Write notes on the following :

- (a) Cell surface receptors,  
(b) Cell signalling.

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**M.Sc. I Semester Examination, April-2021**

**BIOTECHNOLOGY**

**Paper I**

(Basics of Biotechnology and Cell Biology)

Time : 3 Hours ]

[Maximum Marks : 80

**Note :** All questions are compulsory. Question Paper comprises of 3 sections. **Section A** is objective type/Multiple Choice questions with no internal choice. **Section B** is short answer type with internal choice. **Section C** is long answer type with internal choice.

SECTION 'A'

1×8=8

(Objective Type Questions)

Choose the correct answer :

1. The name Karry Mullis is associated with :  
(a) Gel Retardation assay  
(b) Chain termination reaction  
(c) RFLP (d) PCR
2. Which Biosafety level involves the highest risk of microbes ?

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- (a) BSL-1 (b) BSL-2  
(c) BSL-3 (d) BSL-4
3. This is the site where detoxification of xenobiotic compound occurs :
- (a) Rough endoplasmic reticulum  
(b) Ribosome  
(c) Cytosol  
(d) Smooth Endoplasmic reticulum
4. Oxyosomes of  $F_0-F_1$  particles take place on :
- (a) Chloroplast surface (b) Thylakoid  
(c) Inner mitochondrial membrane  
(d) Mitochondrial surface
5. Cell division cannot be stopped in which phase of the cell cycles ?
- (a)  $G_1$  phase (b)  $G_2$  phase  
(c) S phase (d) Prophase
6. Cdk 2/ cyclin E fuunction in :
- (a)  $G_1$ /S transition (b)  $G_2$ /M transition  
(c)  $G_2$  M
7. Who explained the Wobble hypothesis ?
- (a) Darwin (b) Watson and Crick  
(c) Samuel B. Weiss (d) Nirenberg

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8. Which of the following signal molecules does not interact with cell surface receptors ?
- (a) Insulin (b) Gastrin  
(c) Glucagen (d) Testosterone

**SECTION 'B' 6×4=24**

*(Short Answer Type Questions)*

**Note :** Answer the following questions in 250 words.

1. Write note on laboratory safety rules.

Or

Explain about overview of biotechnology.

2. Explain about vesicular transport.

Or

Write about structure and function of nucleus.

3. Explain apoptosis.

Or

Write about cell cycle check points.

4. Explain central dogma.

Or

Write about signalling molecules.

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P. T. O.