Printed page:3 **Subject Code: ABT0306**

Roll No: | | | | | | | | | | | | | |

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

(SEM: III THEORY EXAMINATION (2021-2022)

Subject Name: Plant and Animal Science

Time: 3Hours **Max. Marks: 100**

General Instructions:

- All questions are compulsory. It comprises of three Sections, A, B, and C.
- Section A -Question No- 1 is objective type questions carrying 1 mark each, Question No- 2 is very short answer type carrying 2 mark each.
- Section B - Question No-3 is Long answer type -I question with external choice carrying 6 marks each.
- Section C -Question No. 4-8 are Long answer type –II (within unit choice) questions carrying 10marks **each**.

No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

		SECTION – A		
1.	**Answer all parts-**		**[10×1=10]**	**CO**
	a.	**Calvin cycle is also called** A. C3 cycle B. Dark reaction C. light reaction D. A & B both	**(1)**	**CO 2**
	b.	**Most abundant protein on earth is?** A. Rubisco B. 3PGA C. Glycolate D. RuBP	**(1)**	**CO 2**
	c.	**Function of chloroplast includes?** A. Amino acid synthesis B. Fatty acid synthesis C. Immune response in plants D. All of the above	**(1)**	**CO 3**
	d.	**The upward movement of water in plant is known?** A. Ascent of sap B. Ascent of water C. Ascent of moisture D. Ascent of liquid water	**(1)**	**CO 3**
	e.	**Taking of food molecules is known as ingestion** **A.** True B. False	**(1)**	**CO4**
	f.	**Outer covering of lungs is known as pleura** **A.** True B. False	**(1)**	**CO4**
	g.	Sugarcane is propagated **by----------**	**(1)**	**CO 5**
	h.	Proliferative phase of menstrual cycle is also called--------	**(1)**	**CO 5**
	i.	**Totipotency is the property of plant cells** A. True B. False	**(1)**	**CO 1**
	j.	**Callus is** **A.** Undifferentiated mass of cell B. Differentiated mass of cell C Redifferentiated mass of cell D. Both differentiated and undifferentiated mass of cell	**(1)**	**CO 1**

2.	**Answer all parts-**		**[5×2=10]**	**CO**
	a.	What is programmed cell death? How apoptosis is differ from necrosis	**(2)**	**CO 1**
	b.	Explain kranz anatomy in C 4 plants?	**(2)**	**CO 2**
	c.	Write down the classification of plant growth regulators	**(2)**	**CO 3**
	d.	How Sexual and asexual reproduction in plants and animals differ from each other?	**(2)**	**CO 5**
	e.	Write down the various roles of digestive enzymes in humans?	**(2)**	**CO 4**
		SECTION – B		
3.	**Answer any five of the following-**		**[5×6=30]**	
	a.	Write details accounts on Photosynthesis? How C3 cycle is differ from C4 cycle	**(6)**	**CO 2**
	b.	Describe respiratory systems and mechanism of breathing and its regulations with suitable diagram?	**(6)**	**CO 4**
	c.	Write details accounts on Mitosis and meiosis with suitable diagram.	**(6)**	**CO 1**
	d.	How the Respiration and photorespiration related to each other?	**(6)**	**CO 3**
	e.	How the Movement of water and minerals occurred in plants?	**(6)**	**CO 2**
	f.	What are different types of plant hormone? Write applications of each hormone in detail?	**(6)**	**CO 2**
	g.	Write details about pre fertilization and post fertilization events in animals and plants?	**(6)**	**CO 5**
		SECTION – C		
4	**Answer any one of the following-**		**[5×10=50]**	
	a.	What is respiration? Explain glycolysis and Kerb's Cycle pathway with suitable diagram using one molecule of glucose?	**(10)**	**CO 2**
	b.	Define the term transpiration? Name the different types of transpiration? How is opening and closing of stomata controlled?	**(10)**	**CO 2**
5.	**Answer any one of the following-**			
	a.	Define the term organogenesis? Differentiate between direct and indirect organogenesis? Explain the different factors which affects the process of organogenesis?	**(10)**	**CO 1**
	b.	Differentiate between extrinsic and intrinsic pathways of apoptosis? Explain the basic concept and effects of morphogenetic factors?	**(10)**	**CO 1**
6.	**Answer any one of the following-**			
	a.	How the excretory products and their elimination happen in humans? Explain with diagram**?**	**(10)**	**CO 4**
	b.	Write details about double circulatory system in humans? Also explain the pumping action of Heart?	**(10)**	**CO 4**
7.	**Answer any one of the following-**			
	a.	What is photorespiration? Explain the process of photorespiration in detail and link with the Calvin cycle?	**(10)**	**CO 3**
	b.	What is Nitrogen metabolism? Write details about mechanism of biological nitrogen fixation?	**(10)**	**CO3**
8.	**Answer any one of the following-**			
	a.	Define the term pollination? Differentiate between self and cross pollination? Briefly explain the process of double fertilization in plants?	**(10)**	**CO 5**
	b.	Describe the life cycle of model organisms like Drosophila and House fly?	**(10)**	**CO 5**