MODEL QUESTION PAPER SET-1:2021-22

MM: 70 BIOLOGY THEORY Time: 3 Hrs

Entire Syllabus

The question paper is divided into Four sections:

- (1) Section A: Q. No. 1 contains Ten multiple choice type of questions carrying One mark each.
 - Q. No. 2 contains Eight very short answer type of questions carrying One mark each.
- (2) **Section B:** Q. No. 3 to Q. No. 14 contains Twelve short answer type of questions carrying two marks each. Internal choice is provided (Any 8)
- (3) **Section C:** Q. No. 15 to Q. No. 26 contains Twelve short answer type of questions carrying Three marks each. Internal choice is provided (Any 8)
- (4) **Section D:** Q. No. 27 to Q. No. 31 contains five long answer type of questions carrying Four marks each. Internal choice is provided (Any 3)
- (5) Use log Table if necessary. Use of Calculator is not allowed.

	SECTION A	103.5	
Q.1	Select & Write the correct Answer	10M	
i.	Plasmids are used as cloning vectors for which of the following reasons?	1M	
	a) Can be multiplied in culture		
	b) Self-replication in bacterial cells		
	c) Can be multiplied in laboratories with the help of enzymes		
	d) Replicate freely outside bacterial cells		
ii.	When certain exotic species are Introduced Into a geographical area they become invasive mainly because:	1M	
	a) The invaded land has unlimited resources for the introduced species		
	b) The invaded land does not have its natural predator		
	c) The population of the introduced species in the invaded land is very low		
	d) Introduced species do not face any competition In the introduced land		
iii.	Which of the following membrane covers the lung?	1M	
	a) Ciliated Epitheliumb) Diaphragm		
	c) Pleura d) Sternum		
iv.	The cranial capacity of Neanderthal man was	1M	
	a) 600 cc b) 940 cc c) 1400 cc d) 1600 cc		
v.	Breathing is controlled by which part of the brain?	1M	
	a) Cerebrum b) Cerebellum		
	c) Hypothalamus d) Medulla oblongata		
vi.	In soil, water available for absorption by root is	1M	
	a) Gravitational waterb) Capillary water		
	c) Hygroscopic water d) Combined water		
vii.	Nosema locustae is Pathogen.	1M	
	a) bacteriab) fungalc) protozoand) viral		
viii.	Cytokinins induce the formation of	1M	
	a) shoot apexb) intrafascicular cambium		
	c) cork cambium d) interfascicular cambium		
ix.	Which of the following is hormone releasing IUD?	1M	
	a) Lippes loop b) Cu 7 c) LNG 20 d) Multiload 375		

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MH-BO	ARD		ALLEN		
х.	When pre-reproductive and post-repr	oductive age group is same in structure, the population is	1M		
	a) Declining	b) Increasing			
Q.2	c) Steady Short Answers (1 Mark Each)	d) disappearing	8M		
ų. <u>2</u> i.	Give one example of complete sex lin	kage	1M		
ii.					
	Name the ancestor of human which is described as man with ape brain.				
iii.	Which are ephemeral structures in the roots?				
iv.	Which are biodiversity hotspots in India?				
v.	Name the hormone secreted by the pineal gland.				
vi. 	Name the causative agent of typhoid fever.				
vii.	What are flocs?		1M		
viii.	What is ecological succession?	CD COVON D	1M		
	All Tillo	SECTION B	101		
0.2	Attempt Any Eight Questions		16M 2M		
Q.3	"Father is responsible for determination of sex of child and not the mother" Justify.				
Q.4	Draw and label structure of Root hair				
Q.5	Write a note on: Biocontrol agents				
Q.6	Write a short note on Apical dominance.				
Q.7	What is genetic variation?				
Q.8	Write a short note on pacemaker.		2M		
Q.9	Give an account of alcoholic beverage	es.	2M		
Q.10	Tropical regions exhibit species richness as compared to polar regions. Justify.				
Q.11	Distinguish between Hypohydrophily and Epihydrophily				
Q.12	Give functions: Meninges		2M		
Q.13	Flavr savr tomato has longer shelf life		2M		
Q.14	Testes are located outside the body ca	vity in scrotal sacs.	2M		
		SECTION C			
	Attempt Any Eight Questions		24M		
Q.15	Match the column I with column II.		3M		
	Column I	Column II			
	a) Alkali treatment	i) Separation of DNA fragments			
	h) Couthour blotting	on gel slab			
	b) Southern blotting	ii) Split DNA fragments into single strands			
	c) Electrophoresis	iii) DNA amplification			
	d) PCR	iv) X-ray photography			
	e) Autoradiography	v) Produce fragment of different			
		size			
	f) DNA treated with REN	vi) DNA transferred to nitrocellulose			
O 16	Pakash not burt on his hand when he	sheet fell down from his motorbike. Which inner membrane must	3M		

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have protected his brain? What other roles do they have to play? Enlist it's function.

ALLEN		MH-BOARD	
Q.17	What is carcinogen? Name one chemical carcinogen with it's target tissue and write various	3M	
	causes of cancer.		
Q.18	Explain in brief the factors affecting blood pressure.		
Q.19	Explain the chromosomal theory of inheritance.		
Q.20	Explain the three types of apomixis		
Q.21	Which different types of water is available for the roots to absorb it?		
Q.22	Write an account of succession in aquatic habitat.	3M	
Q.23	Write about the discovery of cytokinin. Add a note on natural and synthetic cytokinin.		
Q.24	Explain Griffith's transformation experiment.		
Q.25	What is bio-gas? Write in brief about the production process.	3M	
Q.26	Distinguish between Habitat and Niche.	3M	
	SECTION D		
	Attempt Any Three Questions	12M	
Q.27	Describe the process of transcription in protein synthesis	4m	
Q.28	Explain the stages involved in the maturation of microspore into male gametophyte.	4m	
Q.29	Describe in brief an account of disorders of the thyroid.	4m	
Q.30	Why can you feel a pulse when you keep a finger on the wrist or neck but not when you keep	4m	
	them on a vein?		
Q.31	Describe the structure of blastocyst or blastula.	4m	

Together we will make a difference

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