M.Sc. in Plant Biatechhology

16P/287/6

	Question Booklet No
(To be filled up b	y the candidate by blue/black ball-point pen)
Roll No.	
Roll No. (Write the digits in words)	code No (356)
Serial No. of OMR Answer Sheet Day and Date	(0 1/2)
Day and Date	(Signature of Invigilator)

INSTRUCTIONS TO CANDIDATES

(Use only blue/black ball-point pen in the space above and on both sides of the OMR Answer Sheet)

- 1. Within 10 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that it contains all the pages in correct sequence and that no page/question is missing. In case of faulty Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.
- 2. Do not bring any loose paper, written or blank, inside the Examination Hall except the Admit Card without its envelope.
- 3. A separate Answer Sheet is given. It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.
- 4. Write your Roll Number and Serial Number of the Answer Sheet by pen in the space provided above.
- 5. On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top, and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.
- 6. No overwriting is allowed in the entries of Roll No., Question Booklet No. and Set No. (if any) on OMR sheet and also Roll No. and OMR sheet No. on the Question Booklet.
- 7. Any changes in the aforesaid entries is to be verified by the invigilator, otherwise it will be
- 8. Each question in this Booklet is followed by four alternative answers. For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by ball-point pen as mentioned in the guidelines given on the first page of the Answer Sheet.
- 9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.
- 10. Note that the answer once filled in ink cannot be changed. If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be
- 11. For rough work, use the inner back page of the title cover and the blank page at the end of
- 12. Deposit only the OMR Answer Sheet at the end of the Test.
- 13. You are not permitted to leave the Examination Hall until the end of the Test.
- 14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such

[उपर्युक्त निर्देश हिन्दी में अन्तिम आवरण-पृष्ठ पर दिये गये हैं।]

Total No. of Printed Pages: 14





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No. of Questions: 120

Time	: 2 Hours]	[Full Marks : 360
Note	marks. One mark will be deducted will be awarded for each unattempt	ou can. Each question carries 3 (Three) ed for each incorrect answer. Zero mark oted question. ers seem to be approximate to the correct
1.	Plant of medicinal value belongs to fan	nily Acanthaceae is :
	(1) Argemone mexicana	(2) Adhatoda vasika
	(3) Cuscuta reflexa	(4) Polygonum barbatum
2.	The sub-viral entities devoid of their ow	n DNA/RNA are called:
	(1) Gemini viruses	(2) Meta viruses
	(3) Prions	(4) Caulimo viruses
3.	Starch is a polymer of:	
	 (1) D-glucose β (1 → 4) D-glucose (3) D-glucose β (1 → 2) D-glucose 	 (2) D-glucose α (1 → 4) D-glucose (4) D-glucose α (1 → 2) D-glucose
4.	Heterotrichous form is:	
	(1) Volvox (2) Oedogonium	(3) Fritschiella (4) Alternaria
5.	Plasmids are groups of genes found composed of:	in the extra-chromsomal state and
	(1) Cincolon 1-11	(2) Single – stranded DNA
	(3) Double stranded RNA	(4) Single – stranded RNA
6.	Ecotoparasite is:	
	(1) Puccinia (2) Phytophthora	(3) Erysiphe (4) Agaricus
	(1)	" iguricus
		P. T. O.



7.	What is root cause of sickle-cell anemia? (1) An amino acid substitution in the haemoglobin protein (2) Mutations in the gene that directs the synthesis of the haemoglobin protein (3) Malaria (4) Abnormally shaped red blood cells				
8.	DNA can be read as a code for producing a chains of : (1) Cells (2) Sugars (3) Amino acids (4) Salts				
9.	Spirulina maxima is the richest source of protein in the Plant Kingdom. Which of the following statements is <i>not</i> correct with regards to Spirullina? (1) It contains 65% proteins and 3% fiber (2) It grows in acidic habitats (3) It contains 19% carbohydrate and 4% fats (4) At pH 11 it grows almost as monoculture				
10.	 Select the <i>incorrect</i> statement: (1) Vaucheria possess multi flagellate zoospores called synzoospores (2) Chlamydomonas nivalis causes the 'red snow' (3) The red colouration of the Red Sea is due to a blue green alga Trichodesmium erythreum (4) Batrachospermum is a marine alga 				
11.	Columella is absent in : (1) Funaria (2) Riccia (3) Pogonatum (4) Andreaea				
12.	Homosporous pteridophyta is : (1) Equisetum (2) Marsilea (3) Selaginella (4) Isoetes				
13.	Bavistin is a: (1) Antibiotic (2) Fungicide (3) Harmone (4) Herbicide				
14.	= intion is:				



15.	Macrandr			nandrous types Oedogonium		ntheridia are p		
16.				e of the followi				Polysiphonia
	(1) Homo (3) Domi	ozygous r	eces		(2)	Heterozygou Removal of r	ıs rece	
17.	 (1) DNA (2) DNA (3) Synth 	replicatio replicatio esis of nev	n is n be w Dl	unidirectional gins at a specif NA strand is ca	ic nu	cleotide seque	nce Vme po	
18.				are joined toge		11.00		
10.	genus:	or comme	erce	which is exte	nsive	ely used as a	spice	belongs to the
	(1) Mangi	fera	(2)	Myristica	(3)	Eugenia	(4)	Strychnos
19.	,		:					
	(1) Photos				(2)	Transpiration	ı	
	(3) Water	absorptio	n		(4)	Phosphate so	lubiliz	ation
20.	Lecanora is	a:						
	(1) Alga		(2)	Mass	(3)	Lichen	(4)	Bacterium
21.	The selecti	ve perme	abili	ty of plasma m	embr	ane is due to :		
	(1) Lipids		(2)	Enzymes		Proteins		Glycoprotein
22.	These is n following i	o particip n recomb	atio inan	n of f-factor to t formation.	when	there is conj	ugatio	n between the
	(1) F^+ and	F -	(2)	Hfr and F -	(3)	F and F	(4)	Hfr and F +
23.	Gases respo	onsible for	r the	green house e	100		(-/	ry, and r
	(1) CO_2 , CI (3) CO_2 , CI	H_4 and NC	O_2		(2)	CO2, CO and N	VH_3	
24.				•	(4)	CO_2 , NO_2 and	water	vapors
. .	Sporopoller (1) Exine o							
	(3) Intine o	_				Integuments o	f ovule	es
	, ,	1	- 411 ((4) 5	Seed coats		
				(3)				
				= 2				P.T.O.



25.	Vanilla yielding pla (1) Apiaceae	nt belongs to family (2) Rosaceae	(3) Orchidaceae	(4) Lamiaceae
26.	Anticancer compou		(3) Taxodium	(4) Taxus
27.	Precursor of IAA is (1) Tryptophan		(3) Isoleucine	(4) Glutamine
28.	Infective stage of <i>P</i> (1) Schizont	lasmodium is : (2) Merozoite	(3) Sporozoite	(4) Trophozoite
29.	Which histone is ab (1) H ₁	osent in nucleosome (2) H ₂ A	? (3) H ₂ B	(4) H ₃
30.	What is used as a s (1) Fruits	ubstrate during beer (2) Cereals	r production ? (3) Paper wastes	(4) Sugarcane
31.	Dihydrouradin is p (1) mRNA	oresent in : (2) rRNA	(3) tRNA	(4) hnRNA
32.	Bar-eye in <i>Drosoph</i> (1) Duplicaiton (3) Mutation	ila is result of :	(2) Delition (4) Recombinatio	n
33.	Fossil plant is: (1) Nyctanthes	(2) Rhynia	(3) Tinospora	(4) Osmunda
34.	Azoles are: (1) Antifungal dr (3) Antiplasmodi	ug al drug	(2) Antiviral dru (4) Antihelminth	
35.	Non heterocystou (1) Rivularia	s blue green alga is	(4) Cylindrospern	num
36	my physical expl		(2) Genotypes (4) Protein displ	



37	Polygenic traits are those determined by : (1) Non nuclear DNA (2) More than one gene			
	(3) Sex	(4) Only one gene		
38	 Virus-mediated transfer of cellular another by means of virus particles i Induction (2) Transfection 	genetic material from one bacterial cell to s called :		
39	In F ₂ generation phenotypic ratio 9:	, ,		
	(1) Complementary gene action(3) Epistasis action	(2) Duplicate gene action (4) Inhibitory gene action		
40	 Which of the following process leads Non disjunction of chromatids distributed Recombination between adjacent Repeated replication without sep Inactivation of one chromosome 	chromosome segments		
41.		of each nomologous pair		
	Petite in yeast is linked with: (1) Mitochondria (3) Endoplasmic reticulum	(2) Chloroplast (4) Golgibody		
42.	The theory of symbiotic origin of chlos (1) Nostoc (3) α-proteobacteria	roplast is correlated with: (2) Arabidopsis (4) E. coli		
43.	Thallus differentiated into node and ir (1) Nitella (2) Saragassum	nternode is reported in : (3) Codium (4) Ulva		
44.	recombination produces:			
	 New chromosomes New combination of alleles 	(2) Mutations (4) Longer chromosomes		
45.	Which virus contains double stranded l	DNA ?		
	(1) M13			
(J) I dullioma virue		(2) Influenza virus (4) Avian Leukemia virus		
	(5)	Scukeiiia Virus		
	(0)	P.T.O.		



6.	Cell wall absent in : (1) Physarum	(2) Saytonema	(3) Clostridium	(4) Anacystis
7.	Obligate parasite is (1) Physarum	: (2) Peronospora	(3) Alternaria	(4) Chaetomium
18.	Balanoglossus belon (1) Platyhelminthe (3) Cephalochorda	s	(2) Annelida (4) Hemichordata	1
49.	Nullisomics are: $(1) 2n + 1$	(2) 2 <i>n</i> – 2	(3) $2n-2-2$	(4) $2n+1+1$
50.	•	quate amounts of v drome come secretion of aldost		
51.	Corticosterone syr (1) Liver (3) Gall blader	nthesized in :	(2) Gonads (4) Adrenal corte	ex
52.	Melatonin secrete (1) Pancrease (3) Hypothalamu		(2) Pineal gland (4) Pituitary glan	
53.	Gall formation in (1) Trichoderma	duced by : (2) Olpidium	(3) Puccinia	(4) Protomyces
54	 Coelom in Amphi (1) Enterocoelic (3) Pseudocoelo 	in origin	(2) Schizocoelic (4) Absent alto	in origin gether
5	 Puff region is properties. B-chromoso Lampbrush 	me	(2) Sex chromo (4) Polytene ch	
			(6)	



56	6. Barrel shaped pores are present in :	
	(1) Agaricus (2) Marchantia	(3) Porella (4) Caulerpa
57	- sastoquitories operates in .	(-)
	(1) Glycolysis (2) Photosystem 1	(3) Photosystem II (4) Ribosomes
58	In Funaria sporogenous tissues arise free	om:
	(1) Outer endothecium	(2) Inner endothecium
	(3) Total endothecium	(4) Total amphithecium
59	against:	
60	(1) Dysentry (2) Malaria	(3) Cold (4) Tuberculosis
60.	- Boster of is present in:	
	 Fungal cell memberane Mitochondria 	(2) Peptidoglycan
61.		(4) Virus coat protein
•	(1) Post stage spinale is fully formed	?
62.	() - Tetapitase	(3) Anaphase (4) Telophase
	 Vinblastine is an antileukemic drug der (1) Oscimum sanctum 	
	(3) Catharanthus roseus	(2) Papaver somniferum
63.		(4) Cicer arietinum
	(1) T_4 (2) λ -phage	(2) F C t:
64.		(3) E. Coli (4) Plasmodium
04.	mutation by:	
	(1) Deamination (3) Dimers	(2) Alkylation
ee.		(4) Photo-hydration
65.	romed by :	
	(1) Only plants	(2) Only animals
- Andrews	(3) Only carnivores	(4) Organisms linked in food chains
66.	Empryonic membranes present in reptiles	s are .
	(1) Amnion and chorion	
	(2) Chorion and Yolk sac	
	(3) Yolk sac and allantois	
((4) Amnion, chorion, Yolk sac and allanto	ois
	(7)	



67.	Schwann cell present in : (1) Nervous system (3) Heart tissues	(2) Liver tissues(4) Kidney tissues	
68.	Which group of plants has to face physical (1) Lithophytes (2) Halophytes	ological dryness? (3) Hydrophytes	(4) Epiphytes
69.	Complementary cells are associated wit (1) Lenticells (2) Hydathodes	th: (3) Phellogen	(4) Bark
70.	Marsilea commonly known as: (1) club mass (3) stone wort	(2) papper wort(4) Bird's nest mas	ss
71.	Torula stage occur in: (1) Saccharomyces (2) Mucor	(3) Peziza	(4) Agaricus
72.	Synzoospore is found in: (1) Vaucheria (2) Chara	(3) Ectocarpus	(4) Polysiphonia
73.	Commercial fibre of the surface origin (1) Cotton (2) Hemp	is obtained from: (3) Flax	(4) Sunhemp
74.	(1) Kathal (2) Pepal	(3) Arjun	(4) Neem
. 75	(1) Rauvolfia (2) Aconitum	(3) 1110pm	(4) Digitalis
76	 A spice obtained from styles and stig (1) Coriander (2) Turmeric 	mas of a plant is: (3) Hing	(4) Saffron
7	7. Milk dentition in mammals lack :(1) Molars (2) Premolars	(3) Canines	(4) Incisors
7	8. Eggs of frog are: (1) Microlecithal (2) Megalecith	al (3) Alecithal	(4) Telolecithal
	((0)	



7	The driving force of ecosystem is:
	(1) Biomass (2) Producer
	(3) Solar energy (4) Carbohdrate in plants
80	Precursor for the biosynthesis of ethylene is:
	(1) Methionine (2) Lysine (3) Arginine (4) Tryptophan
81	., ,,,
	(1) Alkaloid (2) Monoterpene (3) Diterpene (4) Sterol
82	Penicillin is specific for bacteria because it :
	(1) Inhibite cell well and the
	(3) Inhibite muclaine 11
83	, and the cell division
-	(1) Commed in pigeon-pea plant due to :
	(1) Cercospora (2) Sclerotium (3) Fusarium (4) Pythium
84.	Viral or bacterial infection of placenta is known as:
	(1) Syphilis (2) Placentitic (2)
85.	(ADDENDICITIE
00.	out placelita is derived from:
	(1) Allantois (2) Yolk sac and chorion
••	(4) Yolk sac and allentain
86.	Periyar wild life sanctuary situated in which state ?
	(1) Ottar Fradesh (2) Meghalaya (3) Kerala (4) M.
87.	In one molecule of chlorophyll how many Mg atom is involved? (1) One (2) Two
	(2) 1WO (2) 771
88.	
	Select the electron donor who provides the electron in C ₃ cycle. (1) FADH ₂ (2) NADPH (2) NADPH
89.	(3) NADH2 (4) CTP
09.	Enzyme involved in C ₄ cycle is:
	(1) Ribulose 1, 5-bisphosphatase (2) Glycerate kinase
	(3) Phosphoenolpyruvato carbana
90.	, , and the diffillity transference
(C) (B) B)	Autoclave is an instrument for sterilizing : (1) Explants (2) Media
	(1) Explants (2) Media (3) Needle (4) Seeds
	(*) Seeds
	(9)



91.	Root knot of vegetables is caused by : (1) Meloidogyne (2) Synchytrium	(3) Phytophthora (4) Rhizobium
92.	Aflatoxin is a: (1) Vivotoxin (2) Phytotoxin	(3) Mycotoxin (4) Pathotoxin
93. 94.	Which one of the following is soil treat (1) PCNB (2) Captan Synaptonemal complex is formed dur	(3) Iniran (4) Sunex
54.	 Homologous pairing of chromoso Mutation in gene Circularization of DNA Terminalization of chiasmata 	omes
95.	. 1 1aaamas ara found	in: (3) Hepatocyte (4) Meristem
96.	Ti plasmid present in : (1) Agrobacterium tumifaciens (3) Xanthomonas citri	(2) Agrobacterium rhizogenes (4) Escherichia coli
97	(1) Batrachospermum (3) Rivularia	(2) Oedogonium (4) Ectocarpus
98	End regions of the chromosomes are (1) Kinetochore (2) Telomere	e known as: (3) Centromere (4) Centriole
99	Frankia helps in :(1) Antibiotics production(3) Nitrogen fixation	(2) Enzyme production(4) Ammonia assimilation
10	 Pick up the incorrect statement: (1) A group of adjacent genes the operon (2) Using DNA recombinant technology (3) DNA library can be genomic of the polymerase chain reaction can 	not ampin)
		(10)





1	01. National Botanical Research	n Institute is loca	ited in :	
			Lucknow	(4) 16 11
10		,	Luckitow	(4) Kolkata
4.022	Overlapping gene reported(1) φ × 174	in:		
		(2)	α-phage	
	(3) Zea mays		Drosophila me	lanovaster
10	3. Name the fungus which is k	DOMES - ITT - FI		
	(1) Peziza (2) Piloi	7		
10	(2) 11101	ooius (3)	Nidularia	(4) Erysiphe
10	returns produced in:			
	(1) Kidney (2) Intes	stine (3)	Brain	//\ -
10	o. Oxytocin helps in :	(0)	Diam	(4) Testis
	(1) Androgen synthesis			
*	(2) LH secretion			
	(3) Contraction of uterine sm	ooth muscle		
	(4) Softens pelvic ligaments			
106	(1) Malyacean	0 (11		
	(1) Malvaceae (2) Solani	o family :		
107	, Juditi	aceae (3) Fa	abaceae	(4) Apiaceae
107	Little leaf of brinjal is caused b	v :		· · · · · · · · · · · · · · · · · · ·
	(1) Virus (2) Nema			
108.		(5) [7]	ycoplasma	(4) Bacteria
	(1) Removal of anther			
	(3) Removal of anther	(2) Re	moval of carp	ام
109.	(3) Removal of stigma			
	phenolics?	ermediate in th	ne hiosymul	
		nt u	ic blosyntnes	sis of most plant
110	(2) Arginir	ie (3) Ph	envlalanina (
110.	Jasmonic acid involved in:	(0)	criyimanne (4) Glutamine
	(1) Plant defenses against insect	herbivoros		
	(2) Thenoi synthesis for resistan	co		
	(3) Colouration of notale			
	(4) Plant defenses against fungal	m - 13		
	oioi fullgal	pathogens		
		(11)		
				P.T.O.



111.	Phytochrome is a: (1) Pigment	(2) Harmone	(3) Enzyme	(4) Alkaloid
112.	BAP is used as: (1) Auxin	(2) Cytokinin	(3) Antiauxin	(4) None of these
113.	Which hormone re	gulate the transition (2) GA ₃	(3) Ethylene	ult phases ? (4) Kinetin
114.	Which virus is use (1) T ₂	d in recombinant D (2) HIV	NA technology ? (3) λ	(4) T ₄
115.	Kranz anatomy is (1) C ₄ photosynth (3) CAM metabo	nesis	(2) C₃ photosynt(4) Photorespira	hesis tion
116	 Sources of inverta Aspergillus fla Saccharomyce 	rvus	(2) Corynebacter (4) Candida rugo	ium glutamicum osa
117	(1) Plasmodium (3) Entamoeba hi	ivax	(2) Gardia lambl (4) Trypanosomi	ia a gambiense
118	 Azolla is used as Biopesticide 	(a) DODD	(3) Biofertilize	r (4) Biosensor
11	9. Trabeculae pres	ent in the stem of : (2) Lycopodium		(4) Zamia
17	20. Cortical vascula (1) Bignonia	ar bundles is presen (2) Nyctanthas	t in : (3) Leptadenia	(4) Dracena



*

अभ्यर्थियों के लिए निर्देश

(इस पुरितका के प्रथम आवरण-पृष्ट पर तथा ओ०एम०आर० उत्तर-पत्र के दोनों पृष्ठों पर केवल *नीली।काली बाल-पाइंट पेन* से ही लिखें)

- 1. प्रश्न पुरितका मिलने के 10 मिनट के अन्दर ही देख लें कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी पुस्तिका प्राप्त कर लें।
- 2. परीक्षा भवन में लिफाफा रहित प्रवेश-पत्र के अतिरिक्त, लिखा या सादा कोई भी खुला कागज
- 3. उत्तर-पत्र अलग से दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा। केवल उत्तर-पत्र का ही मूल्यांकन किया जायेगा।
- 4. अपना अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन से निर्धारित स्थान
- 5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तीं को गाढ़ा कर दें। जहाँ -जहाँ आवश्यक हो वहाँ प्रश्न-पुरितका का क्रमांक तथा सेट का नम्बर
- 6. ओ० एम० आर० पत्र पर अनुक्रमांक संख्या, प्रश्न-पुरितका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्न-पुरितका पर अनुक्रमांक संख्या और ओ० एम० आर० पत्र संख्या की प्रविष्टियों में उपरिलेखन की
- 7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक
- 8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिये आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार बाल-प्वाइंट पेन से गाढ़ा करना है।
- 9. प्रत्येक प्रश्न के उत्तर के लिये केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।
- 10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देना चाहते हैं, तो सम्बन्धित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें।
- 11. रफ कार्य के लिये इस पुरितका के मुखपृष्ठ के अंदर वाला पृष्ठ तथा अंतिम खाली पृष्ठ का
- 12. परीक्षा के उपरान्त केवल ओ० एम० आर० उत्तर-पत्र ही परीक्षा भवन में जमा करें।
- 13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमित नहीं होगी।
- 14. यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का / की भागी होगा / होगी।

