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SCIENCE-II

Zoology • Botany



Dr. A. P. SINGH & Dr. RAJENDRA SHARMA



By

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&

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Trained Graduate Teacher Selection Test, 2010 Solved Paper

(Held on 20 February, 2011)

Biology

(C) Bivalents (B) Homologues D) Centromeres	(A) Absence of nucellus(B) Well developed nucellus(C) Partly developed nucellus
•	B) Hydrogen cycle D) Sulphur cycle	 (D) Ill developed nucellus 10. The frond is a— (A) Bud (B) Leaf (C) Petiole (D) Thorn
` ′ •	(B) Pachytene D) Metaphase I	11. Which is maximum in amount found in chloroplast?(A) Pyruvic carboxylase(B) Hexokinase
4. Number of oxygen mol glycolysis of one gluco (A) Zero ((B) Hexokinase(C) RUDP carboxylase(D) None of these12. Which plant yields fibre, oil and food for animals?
5. What average percenta of sun, does an activ means of photosynthesi	ve producer store by	(A) Sunflower (B) Jute (C) Cotton (D) Sunhemp
(A) 0·1 (C) 10 (C)	(B) 1·0 (D) 20	13. Wheat grain is a / an (A) Fruit (B) Seed (C) Embryo (D) Glume
6. Petroplants were first re(A) Lamarck(B) Darwin(C) Hatch and Slack(D) M. Calvin	ecognized by—	 14. Gossypium hirsutum is— (A) old world crop and diploid (B) old world crop and tetraploid (C) new world crop and diploid (D) new world crop and tetraploid
7. Endosperm in coconut(A) Cellular(B) Nuclear(C) Both cellular and r		15. The concept of 'Totipotency' was given by (A) Steward (B) Hippocrates (C) Haberlandt (D) Darwin 16. Cycas revoluta is widely grown as—
		 (A) Medicinal plant (B) Ornamental plant (C) Oil yielding plant (D) Timber yielding plant

17.	Inverted omega-shaped ring of vascular bundles is found in—(A) Rachis of Cycas (B) Leaflet of Cycas		28.	28. Pteridophytes are known as— (A) Vascular cryptogams		
				(B) Phanerogams		
	(C) Root of Cycas	(D) Leaves of Pinus		(C) Cryptogams		
18.	In Pinus root, shape of	of xylem is—		(D) Amphibians of	plant kingdom	
	(A) V shaped	(B) Y shaped	29.	Lycopodium exhibits	s-	
	(C) C shaped	(D) All of these		(A) Heterospory		
19.	The type of ovule of <i>Pinus</i> is— (A) Anatropous (B) Orthotropous (C) Campylotropous			(B) Homospory		
				(C) Both Heterospo	ory and Homospory	
			20	(D) None of these		
			30.	Trabeculae present	in the stem of Selaginella	
	(D) Circinotropous			(A) Endodermis	(B) Epidermis	
20.		on is most common in—		(C) Pericycle	(D) Cortex	
	(A) Fern sporophyte(B) Fern gametophyte(C) Piccia gametophyte		31	•	ollowing is an egg-laying	
			51.	mammal?	onowing is an egg laying	
	(C) Riccia gametoph(D) Riccia sporophyt	•		(A) Mongoose	(B) Platypus	
21				(C) Whale	(D) Mole	
21.	Sporocarp of <i>Marsile</i>	a is— (B) Bisporous	32.		close to the shore of some	
	(A) Heterosporous(C) Homosporous	(D) Non-sporous	volcanic i	volcanic islands is k		
22	•	•		(A) Atoll	(B) Coral island	
22.	A stele without pith is (A) Meristele	(B) Protostele		(C) Barrier reef	(D) Fringing reef	
	(C) Eustele	(D) Dictyostele	33.	Flame cells are—		
23	Which of the following is an aquatic pteridophyte?			(A) Reproductive	(B) Excretory	
23.				(C) Sensory	(D) Inflammatory	
	(A) Lycopodium	(B) Azolla	34.	= -	nd in the life cycle of—	
	(C) Equisetum	(D) Pteris		(A) Aurelia	(B) Obelia	
24.	Which of the following pteridophytes shows			(C) Physalia (D) Adamsia		
	secondary growth?		35.	5. Number of peristome teeth in capsule <i>Funaria</i> is—		
	(A) Lycopodium	(B) Isoetes		(A) 8	(B) 16	
	(C) Marsilea	(D) Pteris		(C) 32	(D) 64	
25.	Professor D. D. Pant has divided Gymnosperms into—		36.	Polymorphism is see	en in—	
				(A) Coelenterata	(B) Annelida	
	(A) 4 divisions	(B) 3 divisions		(C) Arthropoda	(D) Echinodermata	
	(C) 6 divisions	(D) 8 divisions	37.	Syncytial epidermis	is found in—	
26.	The biggest bryophyte is—			(A) Planaria	(B) Ascaris	
	(A) Riccia	(B) Dawsonia		(C) Earthworm	(D) Starfish	
	(C) Anthoceros	(D) Marchantia	38.	Java man was disco	vered by—	
27.	In which stem is protostele found?			(A) W. C. Pei(B) Eugene Dubois		
	(A) Pteris (B) Lycopodium			(C) Darwin		
	(C) Marsilea	(D) Pteridium		(D) Robert Brown		

39.	Metabolic water is a by-product of the	49.	Testes occur in earthy	worm in the segments—		
	process of—		(A) 11 and 12	(B) 12 and 13		
	(A) Digestion (B) Excretion		(C) 14 and 15	(D) 10 and 11		
	(C) Muscle activity (D) Tissue respiration	50.	Metamorphosis in	cockroach is regulated		
40.	Which of the following occurs in mito-chondria?		mainly by— (A) Corpora cardiaca	a		
	(A) Glycolysis		(B) Prothoracic glan			
	(B) Glycogenolysis		(C) Corpora allata			
	(C) Tricarboxylic acid cycle		(D) Brain			
	(D) Histolysis of tissues	51.	The structure of ribos	somes consists of—		
41.	A Chitinous exoskeleton occurs in—		(A) D.N.A. and prote			
	(A) Birds (B) Fishes		(B) R.N.A. and proteins			
	(C) Insects (D) Mammalia		(C) R.N.A. and amir			
42.	Which one of the following is non-parasitic animal?		(D) R.N.A. and D.N.A.			
			52. Polytene chromosome is first observed in —			
	(A) Mosquito (B) Tapeworm	02.	(A) Housefly	(B) Honeybee		
	(C) Sea anemone (D) Leech		(C) Drosophila	(D) None of these		
43.	Conjugation in paramoecium involves exchange of—	53.	Which hormone is se	creted by the testes ?		
	(A) Micronuclei (B) Meganuclei		(A) Testosterone	(B) Progesterone		
	(C) Both of these (D) None of these		(C) T.S.H.	(D) Insulin		
44.	Main excretory product in birds and reptiles is—		54. Islets of Langerhans are— (A) Modified lymph glands			
	(A) Urea (B) Uric acid		(B) Specialized area			
	(C) Ammonia (D) Guanine		(C) Small tubules in	•		
45.	Mammalian kidneys serve to excrete—		(D) Ductless glands	-		
	(A) excess salts, urea and excess water		Which one of the formone?	ollowing is a female sex		
	(B) excess salts, water and amino acids(C) excess water, urea and amino acids		(A) Androgens	(B) Progesterone		
	(D) none of these		(C) Estradiol	(D) All of these		
16			The second cranial ne	erve of frog is—		
40.	'Cristae' helps in— (A) Photosynthesis (B) Respiration		(A) Trochlear nerve	(B) Optic nerve		
	(C) Photo-oxidation (D) Transpiration		(C) Auditory nerve	(D) Vagus nerve		
47.	Stage of the life history of the liver fluke which infects the primary host is—	57.	'Fertilizin' is a chem from—	nical substance produced		
	(A) Redia (B) Meta-cercaria (C) Miracidium (D) Rhabditiform larva		(A) Acrosome			
			(B) Polar bodies			
			(C) Mature eggs			
			(D) Middle part of sp	perm		
48.	Which one of the following is a bisexual animal?		3. The book 'Origin of Species' was publis in—			
	(A) Leech (B) Ascaris		(A) 1809	(B) 1858		
	(C) Honeybee (D) Housefly		(C) 1956	(D) 1859		

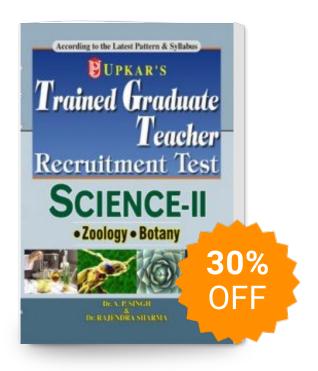
59. According to Neo-Darwinism which one responsible for evolution of organisms ?			68.	A plant which needs not less than ten hours of light to flower should be a—		
	(A) Mutation(C) Both of these	(B) Natural selection(D) None of these		(A) Long day plant(B) Short day plant		
60.	Which of the follow functions as embryon	wing foetal membranes ic urinary bladder?		(C) Day neutral plan(D) None of these	t	
	(A) Allantois(C) Amnion	(B) Yolk sac(D) Chorion	69.	Tropic movement takes place mainly by— (A) Cell enlargement		
61.	In which of the fol 'Lion' is being presen	llowing National Parks ved ?		(B) Cell bending(C) Cell division		
	(A) Dudhwa(C) Corbett	(B) Kaziranga(D) Gir	70.		tween species and sub-	
62.	Follicle Stimulating produced by— (A) Hypothelemus	g Hormone (FSH) is		species are called— (A) Sibling species (C) Super-species	(B) Semi-species(D) Sub-species	
	(A) Hypothalamus(B) Anterior pituitary gland(C) Posterior pituitary gland		71.	The principal food crop of the world is— (A) Wheat (B) Maize		
	(D) Middle lobe of p	ituitary gland		(C) Rice	(D) Barley	
63.	Pyruvic acid before combining with oxaloacetic acid of citric acid cycle becomes (A) Lactic acid (B) Aceto-acetic acid (C) Cis-acotinic acid (D) Acetyl Co-A.			Fungi are always— (A) Heterophytes (B) Autotrophic		
				(C) Saprophytic	(D) Parasitic	
				Structure helping Lick (A) Isidium	hens in respiration is— (B) Soredium	
				(C) Cephalodium	(D) Cyphella	
64. Regeneration in hydra occurs by— (A) Epimorphosis		74.	• •	en fixing cyanobacterium		
	(B) Morphogenesis(C) Morpholaxis			(A) Cylindrospermum		
				(B) Aulosira		
65	(D) Epimorphosis an First mammal appear			(C) Oscilatoria(D) Nostoc		
05.	(A) Permian period		75.	. In bacteria, the respiratory enzymes are located on—		
66.	Gynoecium represent	s—			(B) episome	
	(A) Ovaries with fused stigmas(B) Ovaries with fused style			(C) mesosome	(D) nucleoid	
			76.	A pteridophyte which fixes nitrogen is—		
	(C) A single carpel(D) The whorl of car	pels		(A) Azolla(C) Pteris	(B) Salvinia(D) Selaginella	
67.	Neottia plant is a—	1	77.	'Chilgoza', a dry fruit is a species of—		
	 (A) Saprophyte (B) Symbiont (C) Insectivorous plant (D) Mango (E) Mango 					
				_		
(D) None of these			(D) Gymnosperm			

- 78. The microsporangium in Cycas micro-sporophyllus is present— (A) On adaxial side

 - (B) On abaxial side
 - (C) Along the margins
 - (D) In the axil
- 79. R.Q. stands for—
 - (A) Effect of temperature
 - (B) Nature of respiratory substrate
 - (C) Amount of water released
 - (D) Type of alcohol formed
- 80. Which theory explains ATP synthesis in chloroplasts and mitochondria?
 - (A) Lipman and Lohmann theory
 - (B) Fisher's Lock and Key theory
 - (C) Koshland's induced fit theory
 - (D) Mitchell's chemi-osmotic theory
- 81. The wood of *Pinus* is—
 - (A) Pycnoxylic
 - (B) Manoxylic
 - (C) Both Picnoxylic and Manoxylic
 - (D) None of these
- 82. The smallest living gymnosperm is—
 - (A) Zamia
- (B) Ephedra
- (C) Cycas
- (D) Ginkgo
- 83. Pollination in *Pinus* is—
 - (A) Anemophilous
- (B) Hydrophilous
- (C) Zoophilous
- (D) Cheriopterous
- 84. Which of the following is a living fossil?
- (A) Gnetum gnemon
 - (B) Ginkgo biloba
 - (C) Cedrus deodara
 - (D) Ephedra foliata
- 85. The wing on seed of Pinus is developed from-
 - (A) Integument
 - (B) Nucellus
 - (C) Carpellary scale
 - (D) Ovuliferous scale
- 86. Which of the following is found in aerial stem of Equisetum?
 - (A) Ridges only

- (B) Furrows only
- (C) Both Ridges and Furros
- (D) None of these
- 87. Carinal canals are found in the stem of Equisetum in-
 - (A) Vascular bundle (B) Cortex
 - (C) Pith
- (D) All of these
- 88. Which one is Xerophyte?
 - (A) Marsilea
- (B) Azolla
- (C) Salvinia
- (D) Equisetum
- 89. 'The little club-moss' is the common name for-
 - (A) Selaginella
- (B) Lycopodium
- (C) Equisetum
- (D) Marsilea
- 90. Which one of the following is an amphibious plant?
 - (A) Lycopodium
- (B) Selaginella
- (C) Marsilea
- (D) Equisetum
- 91. Multicellular rhizoids with oblique septa are found in-
 - (A) Anthoceros
- (B) Funaria
- (C) Riccia
- (D) Marchantia
- 92. Which of the following species of Riccia is aquatic?
 - (A) R. discolour
- (B) R. fluitance
- (C) R. orystallina
- (D) R. reticulata
- 93. Which of the following is dioecious species?
 - (A) R. crystallina
 - (B) R. melanospora
 - (C) R. pathankolensis
 - (D) R. discolor
- 94. Which part of Funaria is haploid?
 - (A) Calyptra
- (B) Operculum
- (C) Columella
- (D) Annulus
- 95. Antherozoids of Riccia are—
 - (A) Monoflagellate (B) Biflagellate
- - (C) Quadriflagellate (D) Multiflagellate
- 96. Which one of the following vertebrate tissues would be an excellent source of collagen?
 - (A) Liver
- (B) Muscle
- (C) Tendon
- (D) Nerve

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