# 

## 2016-2017 ADMISSION TEST

M. Sc. BOTANY

- 3. Roll No. (In Figures) 143241
- 4. Name of the Candidate: Sum Cupyo Shamin
- 5. Name of the Candidate's Father Michael Sharring Arreate
- 6. Name of the Candidate's Mother: Rahat Chamm

Signature of the Candidate:....



Signature of the Invigilator

Time: 2 Hours

Maximum Marks: 200

## INSTRUCTIONS TO CANDIDATE

- All questions are compulsory. There are two sections. In Section 'A' each question is
  followed by four alternatives. Select one most appropriate answer and mark the same
  one the OMR answer sheet. Section 'B' is short answer questions. Write answer in the
  last pages of question booklet.
- 2. Use only ball point pen for marking the correct answers on the OMR Answer Sheet.
- 3. Do not put any other marks in any part of the OMR Answer Sheet.
- 4. OMR Answer Sheet must be handled very carefully. It should not be folded.
- 5. Incorrect Answer to a question shall result in a negative score of 25 present of the marks allotted to the question.
- 6. No request for re-evaluation/re-totalling will be entertained.
- 7. The candidate appearing at this Test has to abide by all the rules framed from time to time by the University.
- 8. Violation of any of these instructions will result in cancellation of whole Admission

  Test of the candidate.
- 9. The candidates resorting to unfair means in the Admission Test shall be dealt with as per the University rules.

Amu Updates

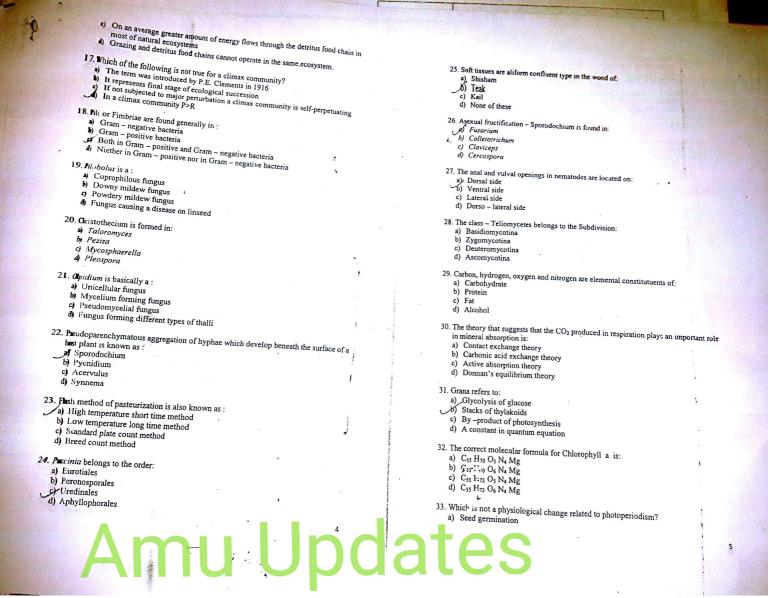
M.Sc. Botany 2016-17 Section A (Multiple Choice Questions) Coliphage X 174 contains a) Single stranded RNA
b) Single stranded DNA
c) Double stranded RNA
d) Double stranded DNA 2. Endosperm is not found in: a) Annonaceaeb) Loranthaceae Trapaceae d) Acanthaceae 3. Tetrasporic embryosac is : a) Oenothera type b) Allium type c) Endymion type A) Adoxa type Exine sculpturing of mature pollen is of great importance in:
 a) Physiological studies
 b) Mitotic studies Taxonomic studies Pollination 5. The most widely used chemical for protoplast fusion, as fusogen, is:
Polyethylene glycol (PEG)
b) Sorbitol c) Dimethyl sulfoxide · d) Mannitol 6. The endosperm in gymnosperms is: a) Haploid b) Diploid c) Triploid d) Polyploid 7. The male gametophyte of Pinus is: a) 10 celled b) 6 celled d) 2 celled The transfusion tissue is present in the leaves of: a) Dryopteris b) Cycas d) Cycas and Pinus

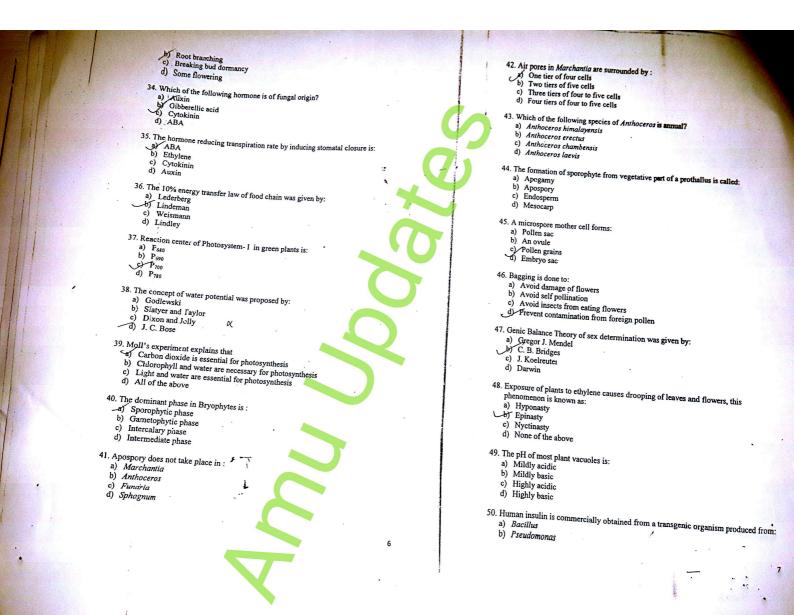
Ephedra resembles with the in:

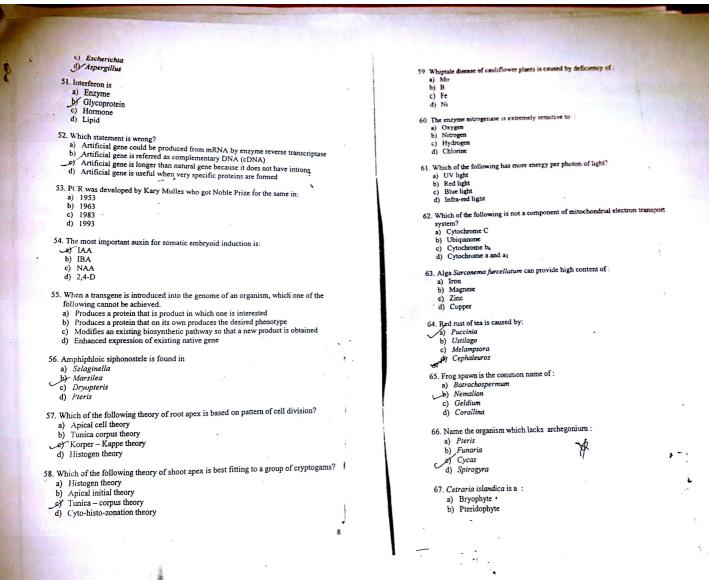
(a) Presence of archegonia

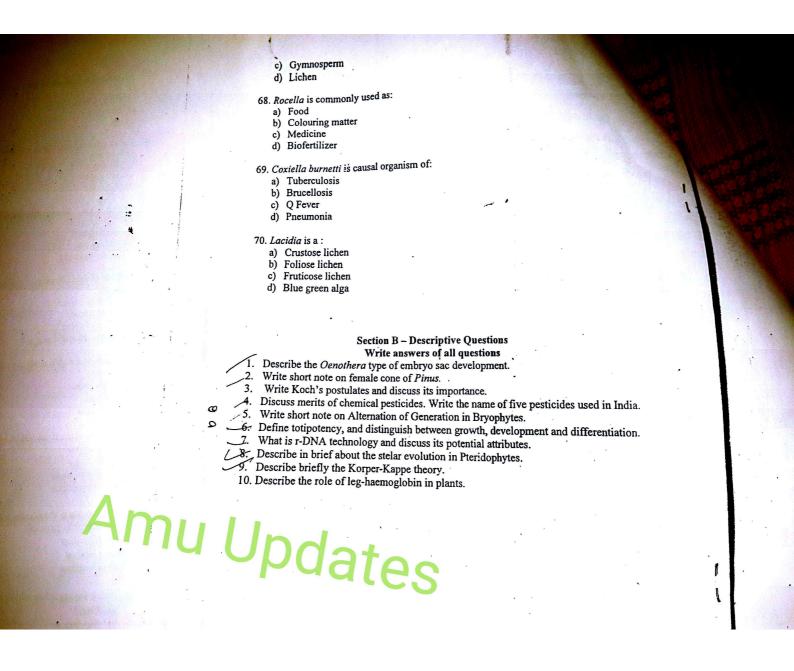
b) Ciliated sperms

c) Presence of bi-integument ovules d) None of the above 10. Perianth is found in : a) Pinus b) Cedrus c) Cycasd) Ephedra Which of the following books deals with rules of nomenclature?
 The Families of Flowering Plants a) The Families of Flowering Plants
b) Theorie elementaire de la botanique c) Hortus uplandicus d) British Flowering Plants 12. Which of the following is considered as starting date for the nomenclature of angiosperms?
a) May 01, 1735
b) May 01, 1753 c) May 10, 1753d) May 10, 1735 13. Which of the following statements is correct regarding the families Caesalpiniaceae and Fabaceae? a) These families can be distinguished on the basis of flower symmetry
b) These families cannot be distinguished on the basis of corolla characters
c) These families can be readily distinguished by leaf characters These families can be readily distinguished by androecium characters 14. Select the correct statement: a) Gynoecium is 2- carpellary and ovary is superior in the family Apiaceae
 b) Families Convolvulaceae and Solanaceae can be distinguished on the basis of number of ovules c) Members of the family Papaveraceae are predominantly woody
d) Bentham and Hooker's system place the families Apocynaceae and
Asclepiadaceae in different orders 15. A laticiferous herbaceous climber has complete, actinomorphic flower, gamopetalous corolla, free pollen grains, and two ovules per locule. It can be most appropriately assigned to the family: a) Asclepiadaceae b) Euphorbiaceae c) Acanthaceae d) Convolvulaceae 16. Select the correct statement: Coprophagy plays a central role in grazing food chains
b) Detrivores consume living producers









	DEPARTMENT OF	BOTANY, ALIGARH MUSI IN THE	I CONTROL STATE
	Updates	ALIGARH	
X	ADMISSION TEST  M. Sc. BOTANY  3 4. 5.	ARTICULARS TO BE FILLED IN BY THE CANDIDA  1. Name of the Centre: Department of Radiony Insc.  2. Date of the Test: 06-06-13  Roll No. (in Figures): Tulb, fall, allow, but, tulb miles of Name of the Candidate: 10-10-10-10-10-10-10-10-10-10-10-10-10-1	(s)(d)
	Time: 2 Hours  Maximum Marks: 200  INSTRUCTIONS TO CAN		
	consider as the most appropriate to you. Section 'provided.	sory. There are two Sections. In Section 'A' each our alternatives. Select one of the answer which you opriate and mark the same on the OMR Answer Sheet B' is short answer questions. Write answer in the space or marking the correct answers on the OMR Answer	
	Do not put any other man     Electing more than one ans     wrong.	rks in any part of the OMR Answer Sheet. swer to a question would result in its being treated as	
	7. The candidate appearing at to time by the University	be handled very carefully. It should not be folded.  n/re-totalling will be entertained.  this Test has to abide by all the rules framed from time	
	8. Violation of any of these ins Admission Test of the candi 9. The candidates resorting to a	structions will result in concelled	
	as per the University rules.	and rullission test shall be dealt with	1,300,000,000

### M.Sc. BOTANY 2013-14 SECTION 'A' 1. A new transmissible and pathogenic agent is called: (Multiple Choice Questions) (c) Viroplasma 4 2. Cell wan in Gram positive bacteria is composed of: (b) Virosoid 4 (d) Spiroplasma (a) Lipid and protein V (c) Protein \* 3. Putrefying bacteria act upon: (b) Murein (d) Cellulose and protein A (a) Protein

(c) Fat 4. Synzoosperes are found in: (a) Anabaena

(b) Starch (d) Carbohydrate

(c) Vaucheria 5. Agar-agar is obtained from:

(b) Synedra (d) Stigeoclonia

(a) Gonium (c) Gingosira

(b) Gigantina (d) Geladium

6. Ear cockle disease of wheat is caused by:

(a) Anguina tritici (c) Meloidogyne tritici

(b) Heterodera avenae (d) Dityienchus radicicola

7. Powdery mildew symptoms are produced by one of the following genera:

(a) Sphaerodothis (c) Sphaerella

(b) Sphaerotheca (d) Sphaerosporella

8. The primary inoculum of black rust of wheat in India is: (a) Uredospore

(c) Basidiospore

(b) Teluetospore (d) Acciospore

9. Psuedoelators are found in the sporophyte of:

(a) Marchantia (c) Anthoceros

(b) Pelia

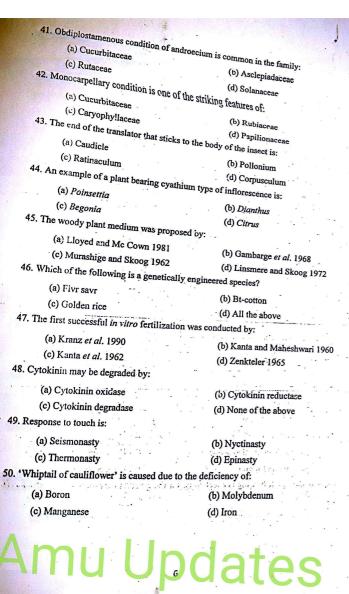
(d) Polytrichum

	B-109	
10. Spor agonium of sporophyte is:		
(a) Leafless and rootless	(b) With leaf and root	
(c) Leafless with root		
<ol> <li>Alternation of generation in bryophytes is:</li> <li>(a) Homologous</li> </ol>	(d) None of the above	
(c) Heterozygous	(b) Heterosporous (d) None of the above	
12. The living example of near telome is:	C / Total of the above	
(a) Psilotum (c) Selaginella	(b) Lycopodium (d) Marsilea B-17	
13. Heterospory is found in:		
(a) Rhynia	(b) Psilotum	
(c) Selaginella	(d) Equisetum	
14. Fern gametophyte is:		
(a) Homothallic	(o) Heterothallic	
(c) Autoecious	(d) Heteroecious	
15. The wing of <i>Pinus</i> seeds is developed from:		
(a) Integument	(b) Nucellus	
(c) Ovuliferous scale	(d) Carpillary scales	
16. The wood of Ephedra consists of:		
(a) Tracheids	(b) Vessels	
(c) Both tracheids and vessels	(d) None of the above	
17. Cycas revoluta is widely grown as:	-	
(a) Medicinal plant	(b) O	
(c) Wood yielding plant	(b) Ornamental plant	
18. Male gametes of Pinus are:	(d) Oil yielding plant	
(a) Nonciliated		
(c) Biciliated	(b) Multiciliated	
	(d) Triciliated	
19. Pollens produced by <i>Pinus</i> pollinate the fem	ale cones of:	
(a) Current year	- (b) Last year	
(c) Developed 2 year earlier	(d) Developed 3 year earlier	
20. The ovule is comparable to:	Total Common	
(a) Megasporangium	<b>4 1 1 1 1 1 1 1 1 1 1</b>	
(e) Megasporophyll	(b) Microsporangium	
	(d) Microsporophyll	

21. Pure line selection method is employed for: (a) Cross pollinated crop (b) Asexually propagated crop (c) Male sterile crop 22. Bisporic embryo sac is found in: (d) Self pollinated crop (a) Adoe (b) Oenothera (c) Drusa 23. In Salvia, the pollination is affected by: (d) Endymion (a) Water (c) Birds (b) Insects 24. The most common occurrence of ovule in angiosperm is: (a) Campylotropous (c) Anatropous (b) Amphitropous 25. One of the followings is not the part of an older tree bark: (d) Circinotropous (c) Secondary xylem (b) Phelloderm 26. A nail was driven into the trunk of a tree at a point 1.5 m above the soil level. After 3 years the nail will: (a) Remain where it was (c) Move up (b) Move side ways 27. The term meristem was given by: (d) Move down (a) Nageli (c) Strasburger (b) Hanstien 28. How many layers of cells constitute a cambium? (d) Grew (a) 1 (b) 2 (c) 3 29. 'Autecology forms the foundation upon which synecology is built.' This statement is: (a) Most time not agreeable (b) Always not agreeable (c) Some time agreeable 30. Transition zone between two vegetational types or vegetational regions is known as: (b) Ecotone (c) Ecotype (d) Ecosystem

31. Individuals of the same species inhab	piting a particular locality constitution
(a) Community	(b) Flora
(c) Population	(d) Fauna
32. A natural biome is:	
(a) Lawn	(b) Crop field
(c) Pond	(d) Forest
33. Eutrophic lakes are:	
(a) Rich in nutrients	(b) Poor in nutrients
(c) Rich in oxygen	(d) Rich in light
34. Which of the following taxonomists be (England)?	clongs to Royal Botanic Garden, Kew
(a) George Benthem	(b) Joseph Hooker
(c) Hutchinson	(d) All the above
35. Natural insecticide obtained from neem	is:
(a) Nicotine	
(c) Ecdysone	(b) Azadirachtine
36. Which of the following is most common	(d) All the above
(a) Sunhemp	
(c) Cowpea	(b) Lentil
37. The leaves of Azolla house the colonies	(d) Λ!l the above
(a) Rhizobium	ot:
(c) Ar ibaena	(b) Azotobacter
38. Dwarf wheat was developed by:	(d) Azospirillum
(a) Mark developed by:	
(a) Vavilov	(b) Borlaug
(c) P. Maheshwari	
39. What is generally used to observe unstain	ned living tissue?
(a) Polarisation microscope	
(c) Radio autogram	(b) Phase contrast microscope
40. Which of the following is a technique	(d) Ultra centrifuge
40. Which of the following is a technique for a cell?	the quantitative estimation of substances
(a) X-ray crystallography	
(c) Chromatography	(b) Autoradiography
Comoniatography	(4)

(d) Spectrophotometry



(a) 0.15 K Cal (b) 1.5 R Cal (c) 3.7 K Cal CA) 13KCA 52. The element e (b) Calcium 53. The element (a) Zinc (b) Molybo (c) Coppe 54. A simple experiment to prove the essentiality of CO2 in photo (a) Robert Hill (b) Melvin Calvin (c) Von Moll (d) Daniel An 55. PEP carboxylase enzyme is required in: (a) C<sub>3</sub> plants (b) Ca plants (c) C3 and C4 plants (d) All green pl 56. Raphanobrassica is a product of cross between: (a) R. sativus x B. oleracea (b) R. sativus x B. juncea (c) R. sativus x B. campestris (d) R. sativus x B. nigra 57. Which of the following definitions belongs to reverse genetics? (a) Study from phenotype to DNA (b) Study from DNA to phenotype (c) Study which lacks Mendelian phenotypic ratios (d) Study from DNA to RNA 58. If the dominant alleles of both gene loci produce the same phenotype without cumulative effect, the 9:3:3:1 ratio is modified to: (a) 12:4 (c) 12:3:1 59. The enzyme that does not denature at 95 °C is: (a) DNA polymerase I (b) Taq polymerase

(c) Ligase

(a) Deletion

(c) Translocation

60. Frame shift mutation occurs due to:

(d) Reverse transcriptase

(b) Transversion

(d) Inversion

### 61. The amount of DNA and RNA in chloroplast is: (a) RNA is more than DNA (b) DNA is more than RNA (c) DNA and RNA are equal (d) DNA is 3-times more than RNA 62. Apomictic embryo may develop from: (a) Diploid zygote (b) Diploid cell in the ovule (c) Diploid cell from shoot apex (d) Haploid egg cell in the ovule 63. The viral genome integrated into a bacterial ome is referred to as: (a) Phagemid (b) Prophase (c) Prophage (d) Mesosome 64. The antigenic molecule in antigen B is: (a) Glucose (b) Galactose (c) Fucose (d) Ribose 4. 65. In bacterial translation process, the translocation step is catalyzed by the factor: (a) IF-3 (b) Rho (c) EF-G (d) Sigma 66. Tandomly repeated genes code for: (a) Histones (b) r RNA (c) t RNA (d) All the above 67. The polyploidy level in doob grass (Cynodon dactylon) is: (a) Segmental allopolyploid (b) Autotetraploid -- (c) Hexaploid -(d) Autotriploid -68. The characteristic degeneracy of codon is not applicable to: (b) Serine (a) Tryptophan (d) Cysteine (c) Lysine 69. During transcription, RNA polymerase covers: (a) 20 bp (b) 40 bp (c) 60 bp (d) 100 bp 70. Telomeres of chromatin fibres remain attached to: (b) Nuclear lamina (a) Nucleolus (d) Centromers (c) Centrosome

## SECTION 'B'

## (Short Answer Questions)

## Write short notes on the following:

- Name the causing agent of 'Root knot of okra', Ear cockle of wheat 'Citrus canker'.
- Comment upon 'hybrid vigour'.
- 3. Elaborate the concept of 'self incompatibility'.
- 4. Write general characteristics of Equisetum.
- Write the structure and function of periderm.
- 6. Write the general properties of genetic code.
- 7. Enumerate the role of biotechnology in modern a
- 8. Write the importance of ICBN.
- 9. What do you understand by Niche and Succession
- 10. Write the difference between C3 and C4 plants.

## DEPARTMENT OF BOTANY, ALIGARH MUSLIM UNIVERSITY. ALIGARH

	PARTICULARS TO BE FILLE	) IN DV
2012-2013	the state of the s	THE CANDIDAT
ADMISSION TEST	1. Name of the Centre:	
	2. Date of the Test:	
M. Sc. BOTANY		
a		
,		
	6. Name of the Candidate's Mother:	

Maximum Marks: 200

Signature of the Invigilator

## INSTRUCTIONS TO CANDIDATE

- 1. This booklet contains twelve pages (including cover page).
- 2. All questions are compulsory. There are two Sections. In Section 'A' each question is followed by four alternatives marked as a, b, c and d. Select one of the answer which you consider as the most appropriate and mark the same on the OMR Answer Sheet provided to you. Section 'B' is short answer questions.
- 3. Use only ball point pen for marking the correct answers on the OMR Answer
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- 6. OMR Answer Sheet must be handled very carefully. It should not be folded. 7. No request for re-evaluation/re-totalling will be entertained.
- 8. The candidate appearing at this Test has to abide by all the rules framed from time
- 9. Violation of any of these instructions will result in cancellation of whole Admission Test of the candidate.
- 10. The candidates resorting to unfair means in the Admission test shall be dealt with 11. No extra sheets will be provided.

## SECTION 'A (Multiple Choice Questions) 1. The process of denitrification is facilitated in the presence of: (a) Thiobacillus (b) Nitrobacter (d) Rhizobium 2. The process of transference of genetic material of one bacterium (donor) to the other bacterium with the help of bacteriophage is: (a) Translation (b) Transduction (c) Transcription 3. In all members of Ascomycetes the number of ascospores and their arrangement in an ascus are as follows: (a) Eight ascospores in a linear order (b) Four ascospores in a linear order (c) Either eight or four ascospores, but always in a linear order (d) Either eight or four ascospores without any order (d) Either eight or four ascospores without any order 4. Perficillium is a: (a) White mould (c) Blue mould (b) Black mould 5. The mycelium is typically coenocytic in: (d) Yellow mould (a) Phycomycetes (c) Básidiomycetes (b) Ascomycetes 6. In Selaginella male gametes are: (d) None of the above (a) Multiflagellate (b) Aflagellate (c) Biflagellate 7. In Dryopteris flagella of spermatozoids are attached to: (d) Monoflagellate (a) Cell nucleus (b) Blepharoplast (c) Rhizoplast 8. The venation of leaf in Pteridium is: (d) Body surface (a) Replicate (b) Circinate (c) Conduplicate (d) Convolute

If the calculated value of 't' at a df o I some level comes lesser than the table value. en one can draw inference that: (a) The difference between two means is significant
(b) The difference between two means is insignificant
(c) Not possible to draw inference
(d) The value of calculated 't' and table 't' will be same 10. The value of the correlation coefficient between two variables lie between: 11. Which are the most primitive algae? (b)  $-\alpha$  and  $+\alpha$ (d) -1 and 1 (a) Red algae (c) Green algae (b) Blue-green algae 12. All algae have: (d) Brown algae (a) Phycobilins and carotenes (c) Chlorophyll b and carotene (b) Chlorophyll a and b 13. Functions of elators and psuedoelators are: (d) Chlorophyll a and caroten (a) Absorption of nutrition (c) Spore dispersal (b) To provide mechanical strength 14. Elators of Marchantia are: (d) Conduction of sap (a) Haploid (b) Diploid (c) Triploid 15. Protonema is a stage in the life cycle of: (d) Polyploid (a) All bryophytes (b) Riccia (c) Cycas (d) Funeraia 16. The term MOSAIC was coined by: (a) Adolf Mayer (b) Iwanowaski (c) Louis Pasteur (d) Loefflen 17. The classification given by Benthem and Hooker is: . (a) Natural (b) Phylogenetic (c) Artificial (d) Numerical

18. Two plants A and B are different in correlated morphological characters. The plants should be treated as: (a) One taxonomic species (b) One biological species (c) Two taxonomic species (d) Two biological species 19. Recapitulation theory was given by: (a) Wcismann (b) Lamarck (c) Haeckel (d) Henery 20. Which of the following taxonomists belong to Royal Botanic Garden, Kew (England)?: (a) George Benthem (b) Joseph Hooker (c) Hutchinson (d) All the above 21. Characters from flowers are used as a basis of classification because: (a) Reproductive parts are more conservative than vegetative parts (b) Flowers show variety of colours (c) Flowers can be preserved easily (d) None of the above 22. Xylem in Gymnosperms lacks: (a) Fibres (b) Tracheids (d) Parenchyma 23. If the haploid number of chromosomes in a Gymnosperm is 12, the chromosome number in its endosperm cells will be: (a) 6 (b) 24-(c) 12 (d), 3624. In Cycas there are present: (a) Laticiferous canals (b) Resin canals (c) Mucilaginous canals (d) None of the above 25. Roots of Pinus seedlings are associated with: (a) Bacteria (b) Virus (c) Algae (d) Fungi 26. Function of lateral veins in Cycas is performed by:

(a) Palisade

(c) Mesophyll

(b) Secretary tissue

(d) Transfusion tissue

77 0	37. Conversion of starch to organic acid is es	sential for:
27. Occurrence of a fence or barrier between anthers and stigma of a flower is called:	(a) Stomatal closure	(p) Stomarm obermis
(a) Dichogamy (b) Cleistogamy	(a) Stomatal closure (c) Stomatal initiation	(d) Stomatal growth
(c) Herkogamy (d) Heterostyly	38. Basic structure of all chlorophylls comp	rises:
28. Caryopsis is a fruit of:		(b) Flavoproteins
(a) Wheat	(a) Cytocl rome system	(d) Plastocyanin system
(c) Apple (d) Coconut	(c) Porphyrin system	
29. Sugarcane inflorescence is a:	39. Which organism has been experimental photosynthesis?:	.,
(a) Spike (b) Catkin		(b) Chlorella
(c) Panicle	(a) Hydrilla	(d) Spirogyra
30. A corolla of five petals with vexillary aestivation is said to be:	(c) Spinach	(-)
(a) Ligulate (b) Rilabiate	0. Phytotron is a device by which:	
(c) Personate	(a) Plants are grown in controlled of	environment
31. The ovule is comparable to:	(b) Mutations are produced in plan (c) Electrons are bombarded	
(a) Megaspamasi	(d) Protons are liberated	
(c) Megasposekull	11. Sulphur is not a constituent of:	
32. The youngest layer of secondary phloem in a dicot stem is located just:	(a) Cysteine	(b) Ferredoxin
(a) Incide the main and discot stem is located just:	(c) Thiamine	(d) Pyridoxine
(a) Inside the primary phloem (b) Inside the vascular cambium	42. Number of ATP required for convers	sion of N2 to NH3 by biological means is
(c) Outside the vascular cambium (d) Outside the secondary xylem	(a) 12	(b) 14
33. Phloem parenchyma is absent in:	(c) 16 -	(d) 18
(a) Vascular rays (b) Monocot stem		(4) 10
(c) Dicot root (d) Dicot leaf	43. Largest ecosystem of the world is:	
34. Quiescent centre is the structural form in:	(a) Forests	(b) Grasslands
(a) Shoot and	(c) Great lakes	(d) Oceans
(a) Animal mension	44. An ecosystem resists change because	se it is in a state of:
(c) Apical meristem (d) Root apex	(a) Homoeostasis	(b) Regular illumination
35. How many layers of cells constitute a cambium?:		
(a) 1 (b) 2	(c) Static imbalance	(d) Food accumulation
(6) 2		n of species of plants, it is a tropical rai
(4)	situated in:	•
6. Which of the following element is essential for nitrogen metabolism in reduction of itrates:	(a) W. Himalayas	(b) Rajasthan
	(c) Tamil Nadu	(d) Kerala
(a) Zinc (b) Molybdenum	(c) ramii ivadu	(u) Keraia
(b) Molybuchum	· JOTO	
(c) Iron (d) Manganese	INCALES	
	III UUU -	

46. Which of the following has fewer t ees, hot climate threatternating wet and dry season?: (a) Savannah (c) Temperate grassland (c) remperate grassiand

47. Where species of two different vegetational types are found, such a region is called: (a) Triploidy (d) Hybridization (c) Introgression 48. The composition of jute fibre is: 57. Formation of embryo directly from nu (d) Ecotype (a) Adventitious polyembryony (c) Apogamy (a) Cellulose (c) Callose 49. In Cicer arietinum the sour taste of leaf and fruit is due to the present 58. The phenomenon of masking the effect of one gene pair by ar (d) Mutation (c) Heterosis (c) Oxalic acid and malic acid (b) Citric acid 50. Long fibres are known as: (b) Duplication (d) Oxalic acid and citric acid (a) Deletion (d) Reciprocal trans (c) Paracentric inversion, (a) Flint 60. Recombination of chromosome segment occurs in: (c) Fluff (b) Lint 51. One of the following is not a source of starch: (a) Metaphase (d) Fuz (d) Diakinesis (c) Telophase 61. The most easily recognized characteristic of an inversion heterozygote in plants is: (a) Solanum (b) Semisterility (b) Manihot (c) Alocacia 52. Which of the following provides a general barrier to the movement of molecules in a (d) Psuedodominance (c) A' cross shaped chromosome plasma membrane?: 62. Bacillus thuringenesis is used in genetic engineering because: (a) Its genes can be transferred to the desirable organism (b) Its genetic mapping is easy
(c) It can be grown easily (b) Proteins (c) Carbohydrates (d) All the above 53. During which phase of the cell cycle are normal components of the cell synthesized (d) It produces toxin protein 63. Genetic maps of chromosomes are based on: and assembled?: (b) Translocation (a) Non disjunction (a) M phase (b) G<sub>1</sub> phase (d) Genetic recombination (c) Dominance (c) S phase (d) G<sub>2</sub> phase 64. Two allelic genes are located on: 54. PCR based DNA amplification is an essential feature of which of the following (a) Two homologous chromosome on same loci combination of molecule markers: (b) The same chromosome at different loci (c) Two homologous chromosome on different loci (a) RFLP, AFLP and SSR (b) AFLP, SSR and RAPD (d) Two non homologous chromosomes (d) RAPD, RFLP and SSR (c) RFI.P, RAPD and SSR 55. Hybridoma technology is used to produce: (b) Polyclonal antibodies (a) Monoclonal antibodies (d) B cells (c) a and b both

### 65. Somatic hybridization refers to: (a) Fusion of male gamete with the egg cell (b) Fusion of male gamete with the polar nuclei (c) Fusion of protoplasts (d) Fusion of male gamete with the polar nuclei 66. The cellular composition of mRNA is: (a) 5-10% (b) 3-5% (c) 10-20% (d) 70-80% 67. The ratio of purines and pyrimidines in mRNA is not 1:1 because the nitrogenous (a) Unpaired (b) Paired (c) Paired only in loops 68. Sequencing of genomic DNA is included under (a) Structural genomics (b) Functional genomics (c) Proteomics (d) Transmeiosis 69. Functional unit of a gene that specifies synthesis of one polypeptide is: (a) Codon (b) Cistron (c) Recon (d) Muton 70. Genes between related organisms exhibit high variation, which occur maximally in: (a) Exons (b) Introns (c) Promoters (d) Polyadenylation site SECTION 'B' (Short Answer Questions)

Write short notes on the following in the space provided. 1. Write the characteristics features of Early blight of potato.

2. Write the important features of Anthoceros. 3. Elaborate the concept of 'telome theory'.

4. Write general characteristics of Cycas.

Comment upon the ratio 9:3:4.

What is DNA fingerprinting?.

What are ecads and ecolines?.

5. Write the function of shoot apical meristem.

Write the economic importance of Asclepiadaceae.

10. Define Critical photoperiod with suitable example.

## nt of Botany, Aligarh Huslim Valversity, Aliga

	PARTICULARS TO BE FILLED IN BY THE CANDIDATE
2011-2012 ADMISSION TEST M. Sc. BOTANY	1. Name of the Centre: 2. Date of the Test: 3. Roll No. (In Figures): 4. Name of the Candidate: 5. Name of the Candidate's Father: 6. Name of the Candidate's Mother:

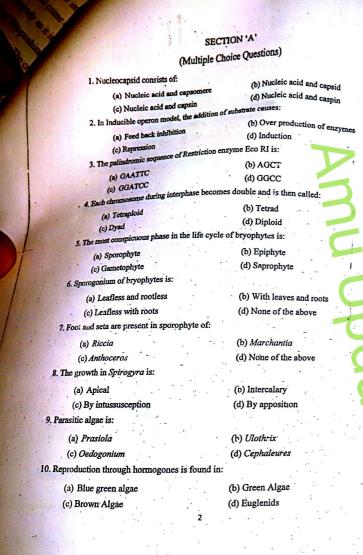
Time: 2 Hours

Signature of the Invigilator

Maximum Marks: 200

### INSTRUCTIONS TO CANDIDATE

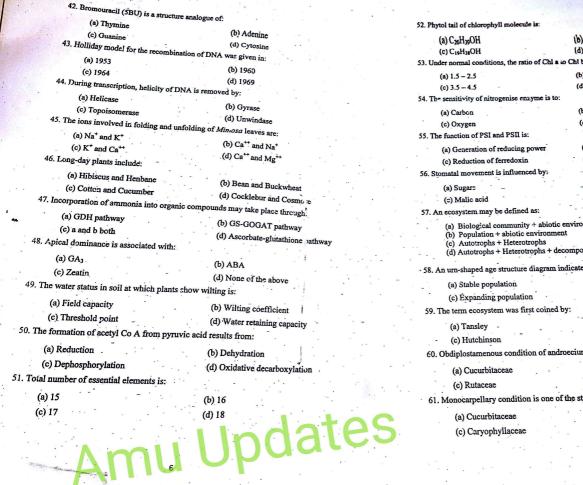
- This booklet contains eleven pages.
- 2. All questions are compulsory. There are two Sections. In Section 'A' each question is followed by four alternatives marked as a, b, c and d. Select one of the answer which you consider as the most appropriate and mark the same on the OMR Answer Sheet provided to you. Section 'B' is short answer questions.
- 3. Use only ball point pen for marking the correct answers on the OMR Answer
- 4. Do not put any other marks in any part of the OMR Answer Sheet.
- 5. Electing more than one answer to a question would result in its being treated as
- 6. OMR Answer Sheet must be handled very carefully. It should not be folded.
- 7. No request for re-evaluation/re-totalling will be entertained.
- 8. The candidate appearing at this Test has to abide by all the rules framed from time to time by the University.
- 9. Violation of any of these instructions will result in cancellation of whole Admission Test of the candidate.
- 10. The candidates resorting to unfair as per the University rules.
- 11. No celva sheels will be provided.

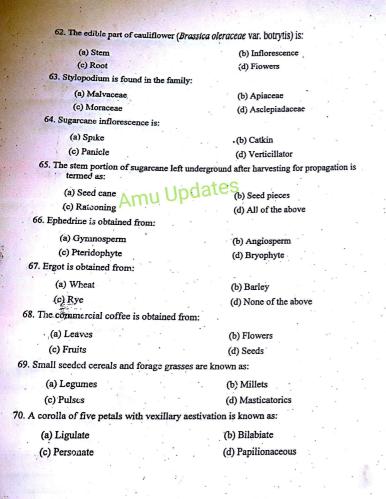


11. Conidia are muriform in:	
(a) Alternaria solani	(b) Puccinia graminis
(c) Albugo candida	(d) Purcinia recondina
12. Which of the following is archaebacteria?:	
(a) Cyanobacteria	(b) Green sulphur bacteria
(c) Rickettsias	(d) Methanogens bacteria
13. Point mutation occurs on:	
(a) Gene	(b) Chromosome
(c) Autosome	(d) Sex chromosome
14. A chemical mutagen is:	
(a) Nitrogen mustard	(b) Sulphur mustard
(c) Nitrous acid	(d) All the above
15. Tobacco mosaic Virus disease is transmitte	ed through:
(a) Aphids	(b) Jassids
(c) Whitefly	(d) Contact
16. Genetic material possessing the dual capa chromosomal entity is called:	city to exist either as extrachromosomal or
(a) Episome	(b) Autosome
(c) Mesosome	(d) Oxysome
17. Which of the following resembles clover	r leaf pattern?
(a) m-RNA	(b) t-RNA
(c) r-RNA	(d) All the above
18. When does replication of DNA take pla	ace?
(a) During meiosis	(b) During mitosis
(c) During interphase	(d) During pachytene and diplot
19. Funaria grows tufts and are:	
(a) Thallose	(b) Folicse
(c) a and b both	(d) None of the above
20. Rhynia belongs to a geological period	
(a) Carboniferous	(b) Permean
(c) Devonian	(d) Cambrian

21. Lycopodium is commonly known as: (a) Horse tail (c) Xylem (b) Club moss (c) Quillwort (d) Stonewort 22. The ovuliferous scale of Pinus is a part of: (a) Xylem is sandwitched between phloer (b) Phloem is sandwitched between Xyle (a) Megasporophyll (c) Xylem and phloem are present as (d) Xylem is embedded in phloem (b) Microsporophyll (c) Ovule (d) Dwarf shoot 23. The function of transfusion tissues of Cycas leaflet is: 33. Safranin promptly stains: (a) Mechanical (a) Protein (b) Photosynthetic (c) Conduction (c) Cutin (d) Storage 24. A blue-green algae lives in: 34. Ribozymes are: (a) Riccia thallus (a) Enzyme (b) Marchantia thallus (c) Pteris stem (c) RNA molecule working as enzyme (d) Cycas roots 25. Ephedra wood consists of: (a) Tracheids (a) Bacillus thuringiensis (b) Vessels (c) Both tracheids and vessels (c) Bacillus sphaericus (d) None of the above 26. Which one is a hexaploid species of wheat? (a) Triticum monococcum (a) Plasmids (b) Triticum durum (c) Triticum speltoids (c) E. Coli genome (d) Triticum aestivum 27. In Salvia, pollination is affected by: (a) Water (a) Arabidopsis thaliana (b) Insects (c) Birds (c) Cicer arietinum (d) Air 28. Colchicine is obtained from members of: (a) Solanaceae (b) Liliaceae (a) ACGTCTGT (c) Rutaceae (d) Rubiaceae 29. In family Cyperaceae, each microspore mother (c) ACGTGUGU cell develops into: (a) Four microspores (b) Three microspores (a) Endoplasmic reticulum (c) One microspore (d) Several microspores 30. Tracheids, vessels, wood fibres and wood parenchyma constitute: (c) Dictyosome (a) Xylem (b) Phloem (a) Octopine region (c) Tyloses (d) Asterosclerieds (c) T-DNA region 31: Passage cells are present in: 41. Golden rice is a: (a) Epidermis (b) Endodermis (a) Genetically engineered rice

(b) Pectin (d) Lignin (b) Protein (d) a and b both 35. Insect resistant cry genes are obtained from: (b) Bacillus papillae (d) Bacillus tumefaciens 36. ARS vectors for gene manipulation are obtained from: (b) Phages (d) Yeast genome 37. The plant that is used as a model system for the study of plant genetics is: (b) Pisum sativum (d) Ocimum sanctum 38. What basis of the RNA transcript would represent the DNA Sequence 5' TGCAGACA3': (b) UCGTCTGU (d) ACGUCUGU 39. Enzyme circulation protein, synthesis and anical support are the function of: (b) Mitochondria (d) None of the above 40. The genetic transformation by Agrobacterium is facilitated by the presence of: (b) Nopaline region (d) None of the above (b) Having the gene for β carotene (d) All the above (c) Vitamin A producing rice





## SECTION 'B'

## (Short Answer Questions)

Answer briefly in the space provided.

- 1. Differentiate between bacteriophages and cyanophages.
- 2. Write roles of algae in human life.
- 3. 'Flower is a modified shoot'. Expand the statement.
- 4. Write general characteristics of gymnosperms.
- 5. What are complimentary genes?
- 6. What do you understand by standard deviation?
- 7. Give the criteria of essentiality for mineral nutrient elements
- 8. Give the significance of somatic hybridization.
- 9. Write special features of reproductive structure of Asclepiadaceae
- 10. What are ecological pyramids?