

QUAID-I-AZAM UNIVERSITY
DEPARTMENT OF PLANT SCIENCES

M.Phil. Sample Entry Test Paper (General Botany)

Time : 1 Hr

Marks : 40

Roll No. _____ Name: _____ Father`s Name _____

Field of Specialization _____

Attempt all questions. Encircle the right question. Overwriting will not be given credit.

1. DNA new strand synthesis always proceeds in
a). 3'-5' direction only b) 5'-3' direction only, c) sometimes 3'-5' direction and mostly 5'-3' direction d) sometimes 5'-3' direction and mostly 3'-5' direction e) all of above
2. The enzyme responsible for unwinding DNA double helix during replication is
a).DNA polymerases b) RNA polymerases c) DNA helicase d) DNA ligase e) DNA gyrase
3. Which of the following RNA modifications could best be described as "removal of intervening sequences"?
a. 5' capping b) Trimming c) Splicing d) Poly A tailing e) RNA editing
4. Eukaryotic TATA box regulatory element is usually found between positions
a. -3 and +5 b) -30 and +50 c) -10 and -35 d) -30 and -100 e) -50 and +30
5. Which of the following nucleic acid serve as a template for translation?
a. DNA b) rRNA c) tRNA d) mRNA e) all of above
6. Autecology is the study of ;
a) Species b) Biosphere c) Community d) Ecosystem)
7. The primary producer level is also called _____ trophic level.
a).First b) Second c) Third d) Fourth
8. Swamps have _____ types of forests.
a)..Pinus b) Mangrove c) Acacia d) Quercus
9. Pinus species are common in _____ forests.
a). Alpine b) Arid c) Temperate d) Tropical)
10. Individual of the same species form _____
a) .Community b) Association c) Population d) System
11. Mutations which occur in body cells which do not go on to form gametes can be classified as:
a) auxotrophic mutations b) *somatic mutations* c) morphological mutations d). oncogenes e) temperature sensitive mutations

12. What would be the frequency of AABBCc individuals from a mating of two AaBbCc individuals?
a. $1/64$ b. $1/32$ c. $1/16$ d. $1/8$ e. $3/16$ f. $1/4$
13. The stage of meiosis in which chromosomes pair and cross over is:
a. *prophase I* b. metaphase I c. prophase II d. metaphase II e. anaphase II
14. Polyploidy refers to:
a). extra copies of a gene adjacent to each other on a chromosome b) *an individual with complete extra sets of chromosomes* c) a chromosome which has replicated but not divided d) multiple ribosomes present on a single mRNA e) an inversion which does not include the centromere
15. Replication of DNA:
a). takes place in a “conservative” manner b). takes place in a “dispersive” manner
c). *takes place in a “semi-conservative” manner* d.) usually involves one origin of replication per chromosome in eukaryotes e.) takes place only in the 3’ to 5’ direction
16. In plants and lower invertebrates, Golgi bodies are also termed as
a) Ribosome sac (b) Thylakoid (c) Dictyosome (d) Peroxisome
17. Following is a type of “ion channel”
(a) Ligand gated channels (b) Voltage gated channels (c) Both a and b (d) None of the above
18. The final product obtained due to the breakdown of glucose by Glycolysis is
(a) PGAL (b) Glucose-6-phosphate (c) DHAP (d) Pyruvate
19. In C₄ plants, Oxaloacetate is converted into malate which is a carbon compound
(a) 1 (b) 2 (c) 3 (d) 4
20. The development of plastids is signaled by
(a) Light only (b) Environmental conditions (c) Temperature only (d) Photoperiod
21. The term “Biochrome” is used for.....
(a) Plant Pigments (b) Animal Pigments (c) Both A&B (d) none of above
22. Pigment color is due to selective.....
(a) Absorption (b) Adsorption (c) Both A&B (d) none of above
23. 3. The gram negative bacteria gives color
(a) Pink (b) Purple (c) Blue (d) none of above
24. The prebiotic soup contains
(a) DNA (b) RNA (c) A&B (d) none of above
25. Diatoms contain chlorophyll
(a) E (b) B (c) C (d) None of the above

26. Booklet or manual that describe the plants of a particular area is;
 a). Vegetation b). Monograph c). Flora d). None of them
27. Morphological classification of plants means;
 a) Reasonal arrangement b). Alphabatic arrangement c). Phenetic arrangement
 d). Phylogenetic arrangement
28. Modern taxonomy confined to;
 a). Palynological characterization b). Cytogenetics c). Molecular taxonomy
 d). All above
29. Species plantarum give the concept of;
 a). Polynomial nomenclature b). Synonym Nomenclature c). Binomial
 nomenclature d). None of them
30. When a cell is fully turgid, which one of the following is zero?
 a) Turgor pressure b) Diffusion pressure c) deficit Wall pressure d) Osmotic
 pressure
31. The C4 plants are photosynthetically more efficient than C3 plants because
 A) They have more chloroplasts b) CO₂ generated during photorespiration is
 trapped and recycled through PEP carboxylase , c) The CO₂ compensation
 point is more, d) The CO₂ efflux is not prevented
32. The hypothesis that all photosynthesis organisms require a source of hydrogen was
 first proposed by
 a) Van Neil, b) Hatch and Slack, c) Hill, d) Ruber and Kamen
33. The percentage of light energy fixed in photosynthesis is generally around
 a) 0.1%, b) 1%, c) 10%, d) 100%
34. Which of the following is necessary for biological nitrogen fixation
 a) Copper, b) Zinc, c) Manganese, d) Molybdenum
35. The largest family in terms of species diversity is;
 a). Asteraceae b). Fabaceae c). Poaceae d). Solanaceae
36. Bilabiate corolla and verticillate inflorescence is the characteristic of family;
 a). Acanthaceae b). Asclepidaceae c). Verbenaceae d). Labiateae
37. Inflorescence of Euphorbiaceae is;
 a). Corymb b). Cyathium c). Cyme d). Catkin
38. Modern System of classification was proposed by;
 a). Hutchinson b). Takhtajan c). Benthum d). None of them
39. Pinnate leaves are the example of;
 a). *Artemesia* b). *Melia* c). *Mimosa* d). All of Above
40. Solanaceae contains;
 a). Zygomorphic flowers b). Actinomorphic flowers c). Both of a & b
 d). None of them