

ENTRANCE EXAMINATION FOR ADMISSION, MAY 2012.

Ph.D. (BOTANY)

COURSE CODE : 136

Register Number :

Signature of the Invigilator
(with date)

COURSE CODE : 136

Time : 2 Hours

Max : 400 Marks

Instructions to Candidates :

1. Write your Register Number within the box provided on the top of this page and fill in the page 1 of the answer sheet using pen.
2. Do not write your name anywhere in this booklet or answer sheet. Violation of this entails disqualification.
3. Read each of the question carefully and shade the relevant answer (A) or (B) or (C) or (D) in the relevant box of the ANSWER SHEET using HB pencil.
4. Avoid blind guessing. A wrong answer will fetch you -1 mark and the correct answer will fetch 4 marks.
5. Do not write anything in the question paper. Use the white sheets attached at the end for rough works.
6. Do not open the question paper until the start signal is given.
7. Do not attempt to answer after stop signal is given. Any such attempt will disqualify your candidature.
8. On stop signal, keep the question paper and the answer sheet on your table and wait for the invigilator to collect them.
9. Use of Calculators, Tables, etc. are prohibited.

1. Blue green algae are
(A) Prokaryotes (B) Eukaryotes (C) A cellular (D) Actinomycetes
2. Agar – agar is derived from
(A) fungi (B) algae (C) actinomycetes (D) Gymnosperms.
3. The organ by which algae is attached to the substratum is called
(A) rhizoid (B) holdfast (C) trichome (D) root.
4. In algae cell wall consists of
(A) cellulose (B) chitin (C) cutin (D) suberin.
5. It is a Unicellular motile alga
(A) Pandorina (B) Eudorina (C) Volvox (D) Chlamydomonas
6. The fungi which grow on dead or decaying organic matter are called
(A) Parasites (B) Saprophytes (C) Epiphytes (D) Symbionts
7. The branch of botany that studies fungi is known as
(A) Morphology (B) Mycology (C) Microbiology (D) Phycology.
8. The fruit body of *Peziza* is
(A) cleistothecium (B) apothecium (C) perithecium (D) basidiocarp.
9. The mushroom is
(A) a plant made up of fine green threads (B) An edible fungus (C) a bryophyte without roots (D) a flowering plant.
10. Lichen is the association of an alga and a
(A) fungus (B) bacterium (C) virus (D) bryophyte.
11. Elaters are seen in
(A) antheridium (B) archegonium (C) sporogonium (D) none of the above.
12. The gametophyte is leafy shoot in
(A) *Riccia* (B) *Marchantia* (C) *Funaria* (D) *Anthoceros*.

13. Female sex organs in Marchantia are borne on
(A) elaterophore (B) rhizophore (C) an antheridiophore (D) an archegoniophore.
14. An endophytic algae is present in the thallus of
(A) Anthoceros (B) Riccia (C) Funaria (D) Marchantia.
15. The spores of moss on germination give rise to
(A) protonema (B) primary protonema (C) secondary protonema (D) operculum
16. Spores of pteridophytes are
(A) haploid (B) diploid (C) triploid (D) tetraploid.
17. If all the spores are of same size and shape, the plant is said to be
(A) aposporous (B) homosporous (C) heterosporous (D) none of the above.
18. Seed habit is originated in
(A) algae (B) fungi (C) bryophyte (D) pteridophyte.
19. Stele in Lycopodium is
(A) dictyostele (B) protostele (C) solenostele (D) siphonostele.
20. Sori bearing leaves are known as
(A) prophylls (B) sporophylls (C) both (D) none.
21. Gymnosperms differ from angiosperms
(A) in showing heterospory (B) in having naked ovules (C) in having seeds (D) in being smaller in size.
22. Endosperm in gymnosperms is
(A) haploid (B) diploid (C) triploid (D) tetraploid.
23. The phloem in gymnosperms lack
(A) phloem parenchyma (B) sieve tubes (C) companion cells (D) all of the above.
24. Algal zone is characteristic of
(A) roots of Pinus (B) stem of cycas (C) normal root of cycas (D) coralloid root of cycas.

25. Vessels are present in
(A) Gnetum (B) Ginkgo (C) Araucaria (D) Zamia.
26. Bicollateral vascular bundles are common in
(A) Aristolochia (B) Helianthus (C) Ricinus (D) Cucurbita
27. Numerous vascular bundles are arranged in a scattered manner in
(A) monocot stem (B) monocot root (C) monocot leaf (D) monocot seed.
28. Nature of vascular bundle in dicot stem generally is
(A) radial (B) concentric (C) collateral (D) eccentric.
29. Sieve tubes are found in
(A) tracheid (B) wood fibres (C) phloem (D) xylem.
30. The lateral branch in a root arises out of the
(A) epidermis (B) cortex (C) pericycle (D) phloem.
31. Egg apparatus consists of
(A) egg & antipodals (B) polar nuclei (C) egg & synergids (D) egg
32. Function of tapetum is
(A) protective (B) nutritive (C) respiratory (D) all the above
33. Maturation of male and female sex organs at different times is known as
(A) herkogamy (B) dichogamy (C) polygamy (D) apogamy.
34. Development of egg without fertilization is
(A) parthenocarpy (B) polyembryo (C) parthenogenesis (D) Adventive embryony.
35. Germ pore is the region where exine is
(A) thin (B) uniform (C) thick & uniform (D) absent.
36. The fibrous roots are commonly found in
(A) dicotyledons (B) monocotyledons (C) gymnosperms (D) none of the above.

37. Phylloclade is a modification of
(A) stem (B) root (C) leaf (D) petiole.
38. Hypanthodium inflorescence is found in
(A) Ficus (B) Morus (C) Helianthus (D) Ranunculus.
39. The fruit of Mango is
(A) Drupe (B) Nut (C) Pome (D) Berry.
40. Marginal placentation is found in
(A) poppy (B) mustard (C) sunflower (D) pea.
41. The condition of androecium in cucurbitaceae is
(A) syngenesious (B) synandrous (C) diadelphous (D) free stamens.
42. The largest family among the dicotyledones is
(A) Rubiaceae (B) Rosaceae (C) Asteraceae (D) Cucurbitaceae.
43. With reference to habit the members of Nymphaeaceae are
(A) terrestrial plants (B) aquatic plants (C) epiphytic plants (D) xerophytic plants.
44. Pulses are group of plants belonging to the family
(A) Papilionaceae (B) Brassicaceae (C) Asteraceae (D) Solanaceae.
45. Botanical name of chilly is
(A) Solanum tuberosum (B) Lycopersicon esculentum (C) Capsicum frutescence
(D) Nicandra physaloides.
46. The movement of particles or molecules from a region of higher concentration to a region of its lower concentration is known as
(A) osmotic diffusion (B) imbibition (C) diffusion (D) none of the above.
47. Magnesium is an important component of
(A) chlorophylls (B) phaeophytin (C) cytochromes (D) all of the above.

48. In photosynthesis, light energy is converted into
(A) heat energy (B) O_2 and hexose sugar (C) chemical energy (D) none of the above.
49. Most common respiratory substrates in plants
(A) fats (B) proteins (C) carbohydrates (D) organic acids.
50. The primary physiological effect of auxin in plants is
(A) elongation of internodes (B) cell division (C) elongation of cells in shoot (D) none of the above.
51. Botanical name of jute is
(A) *Cannabis sativa* (B) *Linum usitatissimum* (C) *Corchorous capsularis* (D) *Carum copticum*
52. Teak wood which is obtained from *Tectona grandis* belongs to the family of
(A) Lamiaceae (B) Verbenaceae (C) Rubiaceae (D) Apocynaceae.
53. Reserpine, a drug extracted from
(A) *Rauwolfia serpentina* (B) *Ferula asafoetida* (C) *Atropa belladonna* (D) *Digitalis purpurea*.
54. Cotton fibre from cotton is obtained from
(A) roots (B) stems (C) seeds (D) leaves.
55. The banana plant is
(A) tree (B) shrub (C) herb (D) climber.
56. Presence of aerenchyma is the characteristic feature of
(A) Xerophytes (B) Hydrophytes (C) Mesophytes (D) Parasites.
57. In mesophytes the root system is meant for
(A) fixation (B) absorption (C) conduction (D) all the three.
58. *Opuntia dillenii* is
(A) Drought escaping (B) drought evading (C) drought enduring (D) drought resisting plant.

59. The type of vegetation present in Pitchavaram is
(A) evergreen (B) deciduous (C) mangrove (D) scrub jungle.
60. Edaphic factor means
(A) climatic factor (B) biotic factor (C) soil factor (D) topographic factor.
61. Capacity of the lens to differentiate two nearby points as wide as possible is
(A) resolving power (B) numerical aperture (C) effective numerical aperture
(D) aberration.
62. The primary image of the object is produced by
(A) eyepiece (B) objective (C) condenser (D) iris diaphragm.
63. In this microscope very fine pencil of electrons scans the surface of the specimen
(A) transmission electron microscope (B) Scanning electron microscope (C) Ultraviolet microscope (D) Fluorescence microscope.
64. Amount of light transmitted through a solution depends on the distance of the light path
(A) Beer's law (B) Newton's law (C) Lambert's law (D) Mendel's law.
65. The pH scale extends from
(A) 0-7 (B) 7-14 (C) 0-14 (D) 6.5 – 7.5.
66. Protoplasm of cell contains organic substances like
(A) carbohydrates (B) fats (C) proteins (D) all the three
67. Each nucleus is surrounded on the outside by a
(A) nuclear membrane (B) nuclear sap (C) nucleolus (D) chromatin.
68. The colourless plastids are called
(A) leucoplasts (B) chloroplasts (C) chromoplasts (D) thylakoids.
69. The reserve food materials in the cells are
(A) carbohydrates (B) nitrogenous products (C) fats and fatty oils (D) all the three.

70. Cell division that takes place in vegetative cells is known as
(A) mitosis (B) meiosis (C) duplication (D) reduction division.
71. Father of genetics is
(A) Morgan (B) Darwin (C) Mendel (D) Hutchinson.
72. An organism with two unlike genes of a trait is called
(A) heterozygous (B) homozygous (C) hermaphrodite (D) monozygous.
73. Sex chromosomes in male are known as
(A) XX (B) XY (C) XO (D) XZ.
74. Synthesis of DNA is known as
(A) replication (B) transcription (C) translocation (D) migration.
75. Universal donor of blood is
(A) A (B) B (C) AB (D) O.
76. Branch of Botany that focuses on plants that injure, heal, nourish or alter the conscious mind is called
(A) Medical Botany (B) Economic botany (C) Palaeobotany (D) Plant physiology.
77. Branch of medical science that are based on traditional medical system found in the muslim world is
(A) Ayurveda (B) Siddha (C) unani (D) Homeopathy.
78. Plant products which reduce mental and physical performance is called as
(A) stimulants (B) Hallucinogens (C) Depressants (D) Drug.
79. An applied science that deals with the study of action of drugs is called
(A) Pharmacology (B) Pharmacognosy (C) Medical botany (D) Applied chemistry.
80. Well known alkaloid quinine which is used as specific for the malarial fever is obtained from
(A) Cinchona (B) Alpinia (C) Adhatoda (D) Eucalyptus.

81. Transformation in bacteria was discovered by
(A) Lederberg & Tatum (B) Griffith (C) Watson & Crick (D) Zinder & Lederberg.
82. Process of making the milk germ free by boiling it to 70°C for 30 minutes is called
(A) dehydration (B) immunization (C) pasteurization (D) sterilization.
83. The bacteria having a tuft of flagella at both the ends are known as
(A) lophotrichous (B) peritrichous (C) amphitrichous (D) atrichous.
84. A bacteriophage is
(A) an organelle of the bacterium (B) bacteria which infects higher plants (C) bacteria which infects an animal cell (D) virus which infects a bacterium.
85. TMV is made up of
(A) DNA & RNA (B) DNA & protein (C) RNA & protein (D) DNA, RNA & protein.
86. Microbes are being developed to be used as
(A) biopesticide (B) biofertilizers (C) biosensors (D) all the three.
87. A variety of plant species can be conveniently propagated through the techniques of cell, tissue or organ culture is popularly described as
(A) clonal propagation (B) micropropagation (C) both (D) none.
88. It has been extensively utilized for transfer of foreign DNA into a number of dicotyledonous species is
(A) Agrobacterium (B) Clostridium (C) Rhizobium (D) Escherichia.
89. Biofertilizers include
(A) Rhizobium (B) Azotobacter (C) Azolla (D) all the three.
90. The association of mycorrhizal fungi in the roots of plants is
(A) symbiotic (B) parasitic (C) saprophytic (D) commensalism

91. The chemical used for killing fungal pathogens are known as
(A) pesticides (B) bactericide (C) nematocide (D) fungicides.
92. A disease which is more or less constantly present from year to year in a locality is known as
(A) epidemic (B) endemic (C) pandemic (D) sporadic.
93. Citrus canker is caused by
(A) Rhizobium (B) TMV (C) Xanthomonas (D) Aspergillus.
94. Tikka disease of ground nut is caused by
(A) Cercospora (B) Alternaria (C) Phytophthora (D) Rhizoctonia.
95. The main objectives of plant breeding are
(A) to increase the yield (B) to increase the quality (C) to develop resistant varieties (D) all the three.
96. A group of descendants selected among progeny of single genetically pure and self fertilized individuals is
(A) Mass selection (B) Pureline selection (C) Clonal selection (D) None.
97. Method of producing new crop varieties by crossing two genetically different plants
(A) Hybridization (B) Selection (C) Plant introduction (D) Mutation.
98. Study of plant life of the geological past is called
(A) Palaeobotany (B) Palynology (C) Palaeontology (D) Pteridology.
99. Theory of Natural selection was proposed by
(A) Lamarck (B) De Vries (C) Buffon (D) Darwin.
100. Acquired characters are transmitted
(A) Darwinism (B) Lamarckism (C) Mutation theory (D) Neodarwinism.