BRIDGE COURSE SYLLABUS, DEPARTMENT OF BOTANY – PG

ST. THOMAS' COLLEGE (AUTONOMOUS) THRISSUR 2019

1. Plant cell structure
2. Typical Angiosperm flower –morphology of floral organs
3. Pollination -different types, mechanisms and contrivances
4. Introduction, scope and significance; branches of horticulture.
5. Seed propagation
6. Gardening
7. Data collection: Introduction; Sampling; random and nonrandom.
8. Measures of central tendency: mean, median and mode
9. Acids and bases, buffers and pH, measurement of pH preparation and use of buffers in biological studies.
10. Principles of microscopy – eyepiece lens and objective lenses; Magnification, Resolving power, numerical aperture.
11. Bacteria – Brief introduction on Bergey"s classification; Ultra structure of bacteria; Bacterial growth, Nutrition, Reproduction, Economic importance of bacteria.
12. A general outline on classification – Ainsworth and Bisby (1983).
13. Growth forms – Crustose (Paint like), filamentous (hair-like), foliose (leafy),and fruticose (branched)
14. Economic importance of Bryophytes.
15. Introduction, general characters and classification (Smith et al., 2008 – briefoutline only).
16. Economic importance of Gymnosperms.
17. Fossil Pteridophytes-Rhynia, lepidocarpon and Calamites
18. Fruits – simple, aggregate and multiple with examples; Seed structure - dicot and monocot - albuminous and exalbuminous, aril, caruncle; Dispersalof fruits and seeds - types and adaptations.
19. Contributions of eminent Taxonomists viz Hendrich van Rheed, WilliamRoxburg, Robert White and G. S. Gamble.
20. DNA – the genetic material; the discovery of DNA as the genetic material;bacterial transformation (Griffith"s & Avery"s experiments); Hershey andChase experiment; Structure of DNA, Watson & Crick"s Model, Types of DNA-(A,B,Z); Replication –semi conservative replication – Meselson and Stahl"s experiment; Molecular mechanism of Replication.
21. Plant tissue culture – Principles and techniques; Cellular totipotency; invitro differentiation – de differentiation and re-differentiation.
22. Recombinant DNA Technology: Gene cloning strategies – recombinant DNAconstruction – cloning vectors – plasmids pBR322, bacteriophage basedvectors, Ti plasmids. Restriction endonucleases and ligases transformationand selection of transformants – using antibiotic resistances markers,southern blotting; PCR.
23. Application of Biotechnology

EVALUATION QUESTIONS OF BRIDGE COURSE 2019
DEPARTMENT OF BOTANY
ST. THOMAS' COLLEGE (AUTONOMOUS) THRISSUR

1. Mature embryo sac containing ..... number of cells
   a) 8 b) 7 c) 5 d) 6
2. Name strongest material present in pollen grain.
   a) Cellulose b) Sporopollenin c) Hemicellulose d) Pectin
3. Common Ploidity of endosperm of angiosperms
   a) 3 b) 5 c) 1 d) 2
4. Cellulose is found in cell wall of .....
   a) Zygomycetes b)Basidiomycetes c)Oomycetes d)Ascomycetes
5. Common food storage material in fungi is .....
   a)Starch b)fat c) oil d) glycogen
6. A fossil gymnosperm is.....
   a) Rhynia b) williamsonia c) Calamites d) Lepidodendron
7. Coralloid roots are found in.....
   a) Cycas b) Pinus c) Cedrus d) Taxus
8. Acetolysis associated with
   a) Metabolism b) Catabolism c) Palynology d) Paleontology
9. Most abundant enzyme in the world
   a) Rubisco b) PEP c) Protease d) Peptidase
10. Numerous chromosome containing plant group
    a) Pteris b) Gnetum c) Ophioglossum d) Osmunda
11. Study of fruits known as
    a) Pomology b) Phycology c) Mycology d) Pathology
12. The organelle which does not have delimiting membrane
    a) Glyoxisome b) Ribosome c) Nucleus d) Endoplasmic reticulum
13. Chiasma formation is seen in which stage of meiosis
    a) Pachytene b) Zygotene c) Leptotene d) Diplotene
14. Causative organism of Blast of Paddy
    a) Pyricularia oryzae b) Xanthomonas oryzae c) Pseudomonas oryzae
    d) Ralstonia sps
15. Who is the father of Indian Paleobotany?
    a) William Roxburgh b) Shiv Ram Kashyap c) Robert Hooke d) Birbal Sahni
16. Which one is keystone species?
    a) Tiger b) Elephant c) Sea otter d) Lion
17. ..... are antimicrobial molecules produced by plant tissue after infection?
    a) Tannins b) Phenolics c) Phytoalexins d) Victorin
18. The phase in which dominant alleles of two or more genes present in same chromosome are linked together is called.....
    a) Coupling b) Repulsion c) Recombination d) Variation
19. Father of genetics
    a) Gregor mendel b) Linnaeus c) Robert brown d) Hooker
20. Average which depend on all value
    a) Mean b) Median c) Mode d) standard deviation

21. Provisional statement of scientific step
    a) Inference b) Hypothesis c) Theory d) Principle
22. Most advanced green algae
    a) Spirogyra b) chlorella c)Chara d) Chlamydomonas
23. Which family produce the aggregate fruit
    a) Meliaceae b) Rutaceae c)Solanaceae d) Annonaceae
24..... Is a semi root parasite
    a) Loranthus b)Vanda c)Santalum d) cuscuta
25. Amphibians of plant kingdom.
    a) gymnosperm b)Pteriodophyte c)Algae d) Bryophyte
26. Value of NADH=
    a) 2 b) 2.5 c)1 d) 1.5
27. Nitrogen fixing bacteria
    a) micrococcus b)salmonella c)spirulina d) rhizobium
28. RQ value =1 which compound?
    a) Protein b)carbohydrate c)fat d) organic acid
29. Test cross ratio
    a) 1:1 b) 2:1 c)2:3 d) 3:2
30. Bicollateral vascular bundle present in which family
    a) rubiaceae b)cucurbitacae c)solanaceae d) rutacceae

MSc Botany 2019-2020

Bridge Course Score Sheet

Sl No	Name	Mark (out of 60)
1	Anagha V	46
2	Ancy Poulose	50
3	Bismi Chacko	30
4	Gautham P B	34
5	Kaius Jyrwa	38
6	Meena Vijayan	48
7	Nandhana K S	50
8	Neelima M	48
9	Nivedhya K K	44
10	Radhu K R	42
11	Reshma C R	50
12	Sanu Francis	46

Class Charge

HOD, Department of Botany

Vimala Jose.

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Bridge Course Score Sheet

List of Advanced Learners

1. Ancy Poulose
2. Meena Vijayan
3. Nandhana K S
4. Neelima M
5. Reshma C R

List of Average Learners

6. Anagha V
7. Kaius Jyrwa
8. Nivedhya K K
9. Radhu K R
10. Sanu Francis

List of Below Learners

11. Bismi Chacko
12. Gautham P B

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