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M.Sc. (Semester - I) (CBCS) Examination Oct/Nov-2017
Botany
BIOLOGY AND DIVERSITY OF FUNGI, BACTERIA, VIRUSES AND LICHENS

Day & Date: Thursday, 16-11-2017
 Time: 10.30 AM to 01.00 PM

Max. Marks: 70

- Instructions:** 1) Q.1 is compulsory.
 2) Attempt any two questions from Q. 2, 3 and 4.
 3) Attempt any two questions from Q. 5, 6 and 7.
 4) Figures to the right indicate full marks.
 5) Draw neat and labeled diagram wherever necessary.

Q.1 Rewrite the following sentence by choosing correct answer:- **14**

- 1) The diseases which commonly occur widely but periodically are termed as _____.
 a) sporadic
 b) endemic
 c) epidemic
 d) both A & B.
- 2) The bacteria are _____ means them devoid of flagella or non-motile.
 a) Atrichous
 b) Amphitrichous
 c) Polar
 d) Non polar
- 3) Viruses are highly resistant to _____.
 a) Acid
 b) Alcohol
 c) X-ray
 d) All of the above
- 4) Bacteriophages are _____ parasites of bacteria.
 a) Viral
 b) Bacterial
 c) Fungal
 d) Both B& C
- 5) According to Berry's manual bacteria belongs to class _____.
 a) Actinomycetes
 b) Basidiomycetes
 c) Deuteromycetes
 d) Schizomycetes
- 6) The TMV in crystalline state from the sap of infected tobacco plant was studied by _____.
 a) Twort
 b) Stanley
 c) Hershey
 d) Herilly
- 7) In bacterial cells _____ is absent.
 a) Hemicellulose
 b) Cellulose
 c) Protein
 d) Both a & b
- 8) Aplanospores are also called as _____.
 a) Sporangiospores
 b) Oospores
 c) Zoospores
 d) Chlamydospores
- 9) *Lactobacillus* bacteria are _____.
 a) Trichous
 b) Atrichous
 c) both A & B
 d) None of the above

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Set **P****M.Sc. (Semester - I) (CBCS) Examination Oct/Nov-2017****Botany
PLANT ECOLOGY**

Day & Date: Tuesday, 21-11-2017
Time: 10.30 AM to 01.00 PM

Max. Marks: 70

- Instructions:** 1) Attempt totally five questions.
2) Section-I is compulsory.
3) Attempt any two questions from Section - II and any two questions from Section - III.
4) Figures to the right indicate full marks.

Section - I**Q.1 Rewrite the following sentences by choosing correct alternative: 14**

- 1) Mangroves are growing in _____ ecosystem.
 - a) Riverine
 - b) Estuarine
 - c) Scrub jungles
 - d) Grassland
- 2) Assemblage of plants in a habitat is called _____.
 - a) Biological community
 - b) Animal community
 - c) Plant community
 - d) Forest community
- 3) The water found in wetlands can be _____.
 - a) Freshwater
 - b) Brackish
 - c) Saltwater
 - d) All of these
- 4) Wetlands occur naturally on every continent except _____.
 - a) Antarctica
 - b) Africa
 - c) Asia
 - d) Australia
- 5) The gradual replacement of one type of plant community by other is known as _____.
 - a) Ecology
 - b) Succession
 - c) Migration
 - d) Ethesis
- 6) Environmental impact assessment start in the
 - a) 1960
 - b) 1982
 - c) 1950
 - d) 2002
- 7) _____ are areas of terrestrial and coastal ecosystem promoting solutions to reconcile the conservation of biodiversity with its sustainable use.
 - a) Wetland
 - b) Biosphere reserves
 - c) Sacred grooves
 - d) Tropical forests
- 8) The scanning of the earth by satellite or high-flying aircraft in order to obtain information about it is known as _____.
 - a) Remote sensing
 - b) Remote scanning
 - c) Photography
 - d) Weather forecast
- 9) The Indian government has established _____ biosphere Reserves in India.
 - a) 15
 - b) 16
 - c) 10
 - d) 18

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Set **P**

M.Sc. (Semester - II) (New) (CBCS) Examination Oct/Nov-2017
Botany
TAXONOMY OF ANGIOSPERMS

Day & Date: Monday, 20-11-2017
 Time: 10.30 AM to 01.00 PM

Max. Marks: 70

- Instructions:** 1) Question no 1 is compulsory.
 2) Write any one question from question 2, 3 and 4.
 3) Write any two questions from question 5, 6 and 7.
 4) Draw neat and labeled diagram wherever necessary.
 5) Figures to the right indicate full marks.

Q.1 Rewrite the following sentences by choosing correct answer: 14

- 1) Cronquist's system of classification is _____ system of classification.
 - a) Evolutionary
 - b) Natural
 - c) Artificial
 - d) Phylogenetic
- 2) The long form of BSI is _____.
 - a) Botanical Survey in India
 - b) Biological Survey of India
 - c) Biodiversity Survey of India
 - d) Botanical Society of Iran
- 3) Nomenclature deals with the determination of _____.
 - a) Classification of correct taxon
 - b) Correct name for a taxon
 - c) Identification of a taxon
 - d) Classification and identification for a taxon
- 4) Current activity of botanical nomenclature governed by the _____.
 - a) ICBN
 - b) ICNB
 - c) ICNCP
 - d) BSI
- 5) According to Besseyan cactus order _____ is belongs to Alternarifoliae.
 - a) Lamiales
 - b) Ebenales
 - c) Iridales
 - d) Cactales
- 6) *Malus malus* is an example of _____.
 - a) Later homonym
 - b) Tautonym
 - c) Isonym
 - d) Synonym
- 7) Botanical nomenclature is independent of _____ nomenclature.
 - a) Bacterial
 - b) Algal
 - c) Zoological
 - d) Both a & b
- 8) _____ situation leads to the rejection of a name.
 - a) Nomina conservanda
 - b) Nomina rejicienda
 - c) Tautonym
 - d) Synonyms
- 9) Perianth is present in the _____ family.
 - a) Scrophulariaceae
 - b) Sapotaceae
 - c) Tiliaceae
 - d) Araceae

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Set **P**

M.Sc. (Semester - II) (New) (CBCS) Examination Oct/Nov-2017
Botany

CELL AND MOLECULAR BIOLOGY OF PLANTS

Day & Date: Wednesday, 22-11-2017
Time: 10.30 AM to 01.00 PM

Max Marks: 70

- Instructions:** 1) Attempt totally five questions.
2) Question no.1 is compulsory.
3) Attempt any two questions from question no.2 to 4
4) Attempt any two questions from question no.5 to 7
5) Figures to the right indicate full marks.

Q.1 Choose the correct answer from the given alternatives:-

14

- 1) _____ proteins are responsible for transport of substances across the membrane against the concentrating gradient.
 - a) Enzymes
 - b) Structural
 - c) Carrier
 - d) Storage
- 2) The lipids of the cell membrane contain _____ head and hydrophobic tails.
 - a) Hydrophilic
 - b) Hydrophobic
 - c) No
 - d) Both Hydrophobic and Hydrophilic
- 3) The unit membrane model was put forwarded by _____.
 - a) Robertson (1953)
 - b) Mudd and Mudd (1931)
 - c) Havery and Cole
 - d) Danielli – Davson (1954)
- 4) In _____ transport, molecules moves from regions of low concentration to regions of high concentration i.e. against the concentration gradient.
 - a) Passive
 - b) Diffusion
 - c) Active
 - d) Effusion
- 5) Baker (1953) referred to the golgi apparatus as _____.
 - a) Mitochondria
 - b) Chloroplast
 - c) Lipocondria
 - d) Camillo golgi
- 6) The endoplasmic reticulum is found in almost all animal and plant cells except _____.
 - a) Oocyte
 - b) Mature erythrocytes
 - c) Procytes
 - d) Meicytes
- 7) Filaments and microtubules are found in all _____ cell.
 - a) Eukaryotic
 - b) Prokaryotic
 - c) Bacterial
 - d) Protozones
- 8) In the chromosome, DNA is looped around the histone beads to form _____.
 - a) Liposomes
 - b) Nucleosomes
 - c) Plastosomes
 - d) Histosomes

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Set **P**

M.Sc. (Semester - III) (New) (CBCS) Examination Oct/Nov-2017
Botany

CYTOGENETICS, PLANT BREEDING AND GENETIC ENGINEERING

Day & Date: Saturday, 18-11-2017
Time: 02.30 PM to 05.00 PM

Max. Marks: 70

Instructions: 1) Q.1 is compulsory.

2) Attempt any two questions from Q. 2, 3 and 4.

3) Attempt any two questions from Q. 5, 6 and 7.

Q.1 Tick mark the right answer of following objective:

14

- 1) _____ is/are the basis of variation in organisms.
 - a) Mutation
 - b) Recombination
 - c) Both a & b
 - d) None of these
- 2) Viroids have
 - a) ss RNA not enclosed by protein coat
 - b) ss DNA enclosed by protein coat
 - c) ds DNA enclosed by protein coat
 - d) ds RNA not enclosed by protein coat
- 3) Transcriptionally active chromatin tends to be get
 - a) Light stained
 - b) Dark stained
 - c) Partially stained
 - d) Non stained
- 4) In the lac operon system B-galactosidase is coded by
 - a) A gene
 - b) X gene
 - c) Y gene
 - d) Z gene
- 5) Protoplasts can be isolated by
 - a) Mechanical method
 - b) Enzymatic method
 - c) Both a and b
 - d) None of these
- 6) Eukaryotic genome is larger in size as compared to prokaryotic genome as eukaryotic genome has
 - a) Introns
 - b) Transposons
 - c) Satellite DNA
 - d) All of these
- 7) One of the following is not the transposon
 - a) SINES
 - b) LINES
 - c) LTR
 - d) STR
- 8) The most commonly used molecular marker for agronomic (yield) traits in plant breeding is
 - a) RFLP
 - b) QTL
 - c) RAPD
 - d) AFLP
- 9) Pomato is an example of
 - a) Cybrid
 - b) Somatic hybrid
 - c) Normal hybrid
 - d) None of these

- 10) One of the following is not the unit of gene mapping
 - a) Map unit
 - b) Centi Morgan
 - c) Crossing Over
 - d) % recombination frequency
- 11) If bacterial genome and plasmid allowed to replicate in the same manner then
 - a) Bactericides genome replicates faster
 - b) Plasmid replicates faster
 - c) Both will take equal time for replication
 - d) None of these
- 12) Transposable genetic elements were discovered by _____
 - a) McClintock
 - b) Mendel
 - c) Meselson
 - d) Morgan
- 13) Proteins that assist binding of RNA polymerase to the promoter region on DNA strand are called
 - a) Transcription factor
 - b) SSB protein
 - c) Sigma Factor
 - d) All of the above
- 14) Which of the following is true regarding linkage maps? They
 - a) Can be used to pinpoint the precise physical position of a gene on a chromosome
 - b) Are a genetic map based recombination frequencies
 - c) Require preparation of karyotypes.
 - d) Reflect the frequency of crossing over between X and Y chromosomes

- Q.2** Give the comparative account of the genome in prokaryotes and eukaryotes with respect to structure, organization and packing. **14**
- Q.3** What is bioinformatics explain use of bioinformatics in major research area. **14**
- Q.4** What is chromosome mapping? Explain different types with importance. **14**
- Q.5 Describe in briefly.** **14**
- a) Gene families
 - b) Mobile genetic elements and their significance
- Q.6 Write on:** **14**
- a) Site specific recombination
 - b) Somatic cell genetics
- Q.7 Write short notes on any three of the following:** **14**
- a) Saccharomyces cerevisiae genome
 - b) Hybridoma technology
 - c) Protoplast fusion
 - d) IPR

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**M.Sc. (Semester - III) (New) (CBCS) Examination Oct/Nov-2017
Botany**

ADVANCED PLANT PHYSIOLOGY AND BIOCHEMISTRY

Day & Date: Tuesday, 21-11-2017
Time: 02.30 PM to 05.00 PM

Max. Marks: 70

- Instructions:** 1) Attempt total five questions.
2) Attempt any two questions from Q. 2, 3 and 4.
3) Attempt any two questions from Q. 5, 6 and 7.
4) Figures to the right indicate full marks.
5) Question 1 is compulsory.

Q.1 Choose correct alternatives:**14**

- 1) During light reaction of photosynthesis _____.
a) Water molecule splits b) CO₂ reacts with H₂sb
c) PGAL is synthesized d) O₂ is combined with CO₂
- 2) _____ is the structural component of Photosynthesis.
a) Chloroplast b) Golgi complex
c) Mitochondria d) Lysosome
- 3) Calvin cycle is _____.
a) Dependent on light b) Not dependent on light
c) Inhibited by light d) None of these
- 4) In C4 plants _____ acts as CO₂ acceptor.
a) PEPA b) Malic acid
c) OAA d) RUBP
- 5) The end product of sulphate metabolism is _____.
a) Ammonia b) Glutamic acid
c) Glutathione d) Proline
- 6) PS-I is concerned with _____.
a) Ionization of water
b) Formation of only ATP
c) Production of assimilatory power
d) None of these
- 7) Reduction of oxygen which forms water occurs during _____.
a) Photosynthesis b) Respiration
c) Photorespiration d) None of these
- 8) Substrate for photorespiration is _____.
a) Serine b) Glycolic acid
c) Indole acetic acid d) Malic acid
- 9) Glycolysis occurs in _____.
a) Cytosol b) Mitochondria
c) Chloroplast d) Peroxisomes

