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**SUBJECT CODE NO:- L-2009**  
**FACULTY OF SCIENCE**  
**B.Sc. T.Y (Sem-V) Examination Oct/Nov 2018**  
**Botany Paper- XV**  
**(Cell Biology & Molecular Biology)**

**[Time: 1:30 Hours]****[Max.Marks:50]**

N.B Please check whether you have got the right question paper.

- 1) Attempt all questions.  
 2) Draw neat & well labeled diagram wherever necessary.

Q.1 Describe structure and function of ER. 20

**OR**

Write in detail RNA. 20

Q.2 Describe structure and function of chromosome. 20

**OR**

Write short note on (any four) 20

- Prokaryotic cell
- Lampbrush Chromosome
- Cell cycle
- Deletion
- Golgi Complex
- Function of nucleus.

Q.3 Multiple Choice Questions:- 10

- Which one of the following nucleic acid has left handed helix?  
 a) Z-DNA      b) A-DNA      c) B-DNA      d) M-RNA
- Assembly of two subunits 40S and 60S of the Ribosome is -----  
 a) 100 S unit      b) 80 S unit      c) 70 S unit      d) 90 S unit
- Which of the following associated with the structure of Golgi complex?  
 a) Cristae      b) Cisternae      c) Annuli      d) Quantasomes
- The term cell was coined by -----  
 a) Schwann      b) Robert Hooke      c) de. Bary      d) Tatum
- How many membranes comprise the nuclear envelop.  
 a) One      b) two      c) three      d) none

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**SUBJECT CODE NO:- L-2010**  
**FACULTY OF SCIENCE**  
**B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2018**  
**Elective Paper Botany Paper - XVI**  
**(A) Diversity of Angiosperms - I**

[Time: 1:30 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

- N.B
- i. Attempt all questions.
  - ii. Draw well labeled and neat diagrams wherever necessary.
- Q.1 What is conservation of Biodiversity? Discuss the types of conservation of Biodiversity studied by you with examples. 20
- OR**
- What are threatened species? Add a note on threatened categories and its conservation. 20
- Q.2 Explain Bentham and Hooker's system of classification up to series along with merits and demerits. 20
- OR**
- Write short notes on (Any Four) 20
- a) Cropland and Agricultural diversity.
  - b) Merits and demerits of de-Candolle system.
  - c) Morphological features of Brassicaceae.
  - d) Economic importance of Apiaceae.
  - e) Floral characters of combretaceae.
  - f) Genetic diversity.
- Q.3 Multiple choice questions. 10
1. Paleoendemic Species are mainly.....
    - a) Woody plants. b) Herbaceous plants. c) Both of above. d) None of above.
  2. Indian Botanical Garden is situated in.....
    - a) Lucknow. b) Howrah. c) Ran thombore. d) Gir.
  3. Following plant species is categorized in endangered category.
    - a) Nepenthes Khasiana. b) Cucumis Sativus.
    - b) Argemone Maxicana. d) Coriandrum Sativum
  4. Cremocarp Fruit is present in ..... Family.
    - a) Rhamnaceae. b) Magnoliaceae. c) Apiaceae. d) Cucurbitaceae.
  5. Genus Nelumbo belongs to family.
    - a) Capparidaceae. b) Rhamnaceae. c) Lytheraceae. d) Nymphaeaceae.

6. Largest No. of plant diversity distributed in ..... Country.  
a) India. b) China. c) Nepal. d) Brazil.
7. One of the hotspot located in India is .....  
a) Eastern ghats. b) Western ghats. c) Western Himalayas. d) Thar desert.
8. Gynandrophorous condition is found in which family?  
a) Combretaceae. b) Rhamnaceae. c) Lythraceae. d) Capparidaceae.
9. Terminalia bellirica belongs to ..... family.  
a) Apiaceae. b) Combrefaceae. c) Papaveraceae. d) Brassicaceae.
10. Cruciform corolla is present in the ..... Family.  
a) Lythraceae. b) Apiaceae. c) Brassicaceae. d) Combretaceae.

OR

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**SUBJECT CODE NO:- L-2010**  
**FACULTY OF SCIENCE**  
**B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2018**  
**Elective Paper Botany Paper- XVI**  
**(B) Plant Breeding and Seed Technology**

[Time: 1:30 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

- N.B
- i. Attempt all questions.
  - ii. Illustrate your answer with suitable labeled diagrams wherever necessary.

Q.1 Describe methods of selection in plant breeding. 20

**OR**

Write in brief: 20

- a) Heterosis
- b) Domestication of Crop plant

Q.2 What is hybridization? Describe the procedure cross Pollinated Crops 20

**OR**

Write short note on(Any Four) 20

- a) Mutation breeding
- b) Clonal selection.
- c) Analysis of Variance.
- d) Endospermic seed.
- e) Nucleus seed.
- f) Seed storage.

Q.3 Multiple Choice questions. 10

1. The quickest method of plant breeding is  
 a) Introduction. b) Selection. c) Hybridization. d) Mutation breeding.
2. The process of introducing new plant in to a new locality with different climate is termed as.....  
 a) Acclimatization. b) Plant introduction. c) Hybridization. d) Emasculation.
3. The term pure line was suggested for the first time by.....  
 a) W.L.Johanson. b) Darlington and Mathar. c) Hayes, Immer and Smith. d) Poehlman.
4. Bagging is done to.....  
 a) Achive desired pollination. b) Prevent contamination from foreign pollen.  
 c) Avoid self-Pollination. d) Avoid cross Pollination.

5. Breeding for disease resistance requires .....
  - a) A good source of resistance.
  - b) Planned hybridization.
  - c) Disease test.
  - d) All of above.
6. Father of green revolution is.....
  - a) Norman E Borlang.
  - b) M.S. Swaminathan.
  - c) Pancharan Maheshwari.
  - D) None of the above.
7. The new varieties of plant are produced by
  - a) Introduction and Mutation.
  - b) Selection and Introduction.
  - b) Selection and Hybridization.
  - d) Mutation and selection.
8. Mutation is .....
  - a) Sudden change.
  - b) Heritable change.
  - c) Non heritable change.
  - d) All of the above.
9. Seed drying is very important to maintain
  - a) Oil content.
  - b) Protein content.
  - c) Chemical Composition.
  - d) Viability and Vigour.
10. Seed coat is derived from.....
  - a) Testa.
  - b) Embryo.
  - c) Endosperm.
  - d) Nucleus.

OR

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**SUBJECT CODE NO:- L-2010**  
**FACULTY OF SCIENCE**  
**B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2018**  
**Elective Paper Botany Paper- XVI**  
**(C) Plant Pathology**

[Time: 1:30 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

- N.B
- i. Attempt all questions.
  - ii. Draw neat and well labeled diagrams whenever necessary.

Q.1 Describe in detail Air borne Pathogens, methods and applications. 20

**OR**

Give an account on classification of plant diseases on the basis of causal organism. 20

Q.2 Discuss in detail symptoms, causal organism, disease cycle and management of grain smut of Jowar. 20

**OR**

Write short notes on(Any Four) 20

- a) ICRISAT.
- b) Fungi as plant Pathogen.
- c) Wilt of Pigeon Pea.
- d) Rust of Euphorbia.
- e) Black Stem rust of wheat.
- f) Angular leaf spot of cotton.

Q.3 Multiple Choice Questions. 10

1. ....is the animate pathogen of plant.  
 a) Minerals. b) Boron. c) Zinc. d) Mycoplasma.
2. A virus that infects a bacterium termed as  
 a) Bacteriophages. b) Endospore. c) Viroid's. d) Fungi.
3. Basidiospores is ..... Sexual spore.  
 a) Triploid. b) Haploid. c) Diploid. d) None of these.
4. Who is first Indian Scientist collected and identified fungi of India.  
 a) K.R. kritikar. b) S.L Ajrekar. c) G.S Indra. d) None of these.
5. The loose smut disease of wheat caused by  
 a) Phytoplasma. b) Ustilago nuda. c) Ustilago scitaminae. d) None of these.

6. The reserve food occur in fungal cell is  
a) Glycogen. b) Ribose. c) Glucose. d) Lipid.
7. Rhizosphere mycoflora associated with  
a) Stem. b) Root. c) Fruit. d) Leaf.
8. The ability of Pathogen to cause disease is called  
a) Immunity. b) Symptoms. c) Pathogenicity. d) All of these.
9. The Sporangia of *Phytophthora infestans* are  
a) Pear shape. b) Oval shape. c) Rectangular shape. d) Spherical.
10. Ergot is caused by  
a) *Rhizopus*. b) *Claviceps*. c) *Albugo*. d) *Pseudomonas*.

OR



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**SUBJECT CODE NO:- L-2010**  
**FACULTY OF SCIENCE**  
**B.Sc. T.Y. (Sem-V) Examination Oct/Nov 2018**  
**Elective Paper Botany Paper- XVI**  
**(D) BIOTECHNOLOGY**

[Time: 1:30 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

- N.B
- i. Attempt all Questions.
  - ii. Draw neat and well labeled diagrams.

- Q.1 What are transgenic plants? Explain their role in agriculture. 20
- OR**
- Describe in detail replication of DNA and add a note on DNA sequencing. 20
- Q.2 Describe the stages of embryogenesis and organogenesis. 20
- OR**
- Write short note on (any four) 20
- a) Scope of Biotechnology.
  - b) Distinguish between DNA polymerase-I and DNA Polymerase-II.
  - c) Nucleotide.
  - d) Present status and scope of tissue culture.
  - e) Reporter genes.
  - f) Anther culture.
- Q.3 Multiple Choice Questions. 10
1. The oldest technique in biotechnology is  
 a) Gene cloning. b) Fermentation. c) Gene transfer. d) Bacterial transformation.
  2. DNA finger printing techniques was first developed by  
 a) Jeffreys, Wilson and Thien. b) Boysen and Jensen.  
 c) Scheilden and schwan. d) Edward and Steptoe.
  3. In southern blotting ..... is separated by gel electrophoresis.  
 a) DNA. b) m-RNA. c) t-RNA. d) Protein.
  4. If DNA strand has 10 spirals, the length of the DNA strand will be  
 a)  $34A^0$ . b)  $340A^0$ . c)  $640A^0$ . d)  $64A^0$ .
  5. Genomics is  
 a) Study of chromosomes. b) Study of Protein.  
 c) Study of genes and genome d) study of Body cell

6. Many Copies of DNA molecule in a test tube are produced by
  - a) Polymerase chain Reaction (PCR).
  - b) Molecular chain Reaction (MCR).
  - c) Ephimeral chain Reaction (ECR).
  - d) All of these.
7. The technique of obtaining large number of plantlets by tissue culture method is called...
  - a) Micropropagation.
  - b) Macropropagation.
  - c) Plant let culture.
  - d) Organ culture.
8. The enzyme used for cutting DNA segment in genetic engineering is
  - a) ATPase.
  - b) Ligase.
  - c) DNA Polymerase.
  - d) Restriction endonuclease.
9. A cloning vector must have
  - a) Enzyme necessary for replication.
  - b) Marker DNA.
  - c) Origin of replication.
  - d) None of the above.
10. The enzyme used in PCR technique is
  - a) Bam I.
  - b) Tqq Polymerase.
  - c) Hind III.
  - d) ECO RI.

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**SUBJECT CODE NO:- L-2025**  
**FACULTY OF SCIENCE**  
**B.Sc. F.Y. (Sem-I) Examination Oct/Nov 2018**  
**Botany Paper-I**  
**Diversity of Cryptogams-I**

[Time: 1:30 Hours]

[Max.Marks:50]

N.B

Please check whether you have got the right question paper.

- 1) Attempt all questions.
- 2) Illustrate your answer with well labelled diagram.

- Q.1 Explain in detail general characters and reproduction in Bacteria. 20  
**OR**  
 Describe in detail systematic position, thallus structure and reproduction in chara. 20
- Q.2 Describe systematic position, structure of Mycelium and reproduction in Eurotium. 20  
**OR**  
 Write short notes on (any four) 20
- a) Structure of TMV
  - b) General character of Mycoplasma
  - c) Nostoc Trichome
  - d) Structure of Botrydium
  - e) Economic Importance of Fungi
  - f) White rust of crucifers
- Q.3 Multiple Choice Questions: 10
- 1) Bacteria which are smallest in size are -----  
 a) Vibrio                      b) Cocci                      c) Spirilli                      d) Bacilli
  - 2) Cell wall of Bacteria is made of -----  
 a) Cellulose                      b) Lipids                      c) Starch                      d) Peptidoglycan
  - 3) Viruses are -----  
 a) Autotrophic                      b) Heterotrophic                      c) cellular                      d) Acellular
  - 4) Usnea species have been used to create -----  
 a) Caffeine                      b) Textile Dyes                      c) Beverages                      d) Expectorant
  - 5) Algae reproduces -----  
 a) Vegetative                      b) Asexual                      c) sexual                      d) All of the above
  - 6) Nitrogen Fixation in rice fields is carried by -----  
 a) Nostoc                      b) Chara                      c) Fungi                      d) Virus

- 7) The mode of Nutrition in Algae is-----  
a) Heterotrophic      b) Parasitic      c) Absorptive      d) Autotrophic
- 8) The study of Fungi is called as -----  
a) Mycology      b) Cytology      c) Algology      d) Embryology
- 9) White rust of crucifers is caused by -----  
a) Puccinia      b) Ustilago      c) Albugo      d) Peziza
- 10) Fruiting body of Agaricus is called as -----  
a) Ascocarp      b) Basidio carp      c) Ergot      d) Stipe

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**SUBJECT CODE NO:- L-2026**  
**FACULTY OF SCIENCE**  
**B.Sc. F.Y. (Sem-I) Examination Oct/Nov 2018**  
**Botany Paper-II**  
**Morphology of Angiosperms**

[Time: 1:30 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

- N.B
- 1) Attempt all questions.
  - 2) Illustrate your answer with suitable labelled diagram.
- Q.1 Describe underground modifications of stem. 20
- OR**
- Describe various modifications in Root. 20
- Q.2 Describe different forms of thalamus. 20
- OR**
- Write short notes on:- (any four) 20
- a) Regions of Root
  - b) Stem tendrils
  - c) Racemose inflorescence
  - d) Perigyny and Epigyny
  - e) Aggregate fruit.
  - f) Seed dispersal by wind.
- Q.3 Multiple Choice Questions. 10
- 1) Caryopsis is a -----
    - a) Fleshy fruit with one seed
    - b) Follicle fruit
    - c) Dry one seeded fruit
    - d) Berry with multiple seed.
  - 2) The mode of arrangement of Petals in a flower bud is known as -----
    - a) Placentation
    - b) Aestivation
    - c) Phyllotaxy
    - d) Venation
  - 3) In a hypogynous flower, the ovary is -----
    - a) Inferior
    - b) Superior
    - c) Half superior
    - d) Half inferior
  - 4) Adventitious roots originate from -----
    - a) Radicle
    - b) All parts
    - c) sepal
    - d) Any other than radicle.
  - 5) Which are the non-essential parts of the flower-----
    - a) Calyx and Corolla
    - b) Calyx and Gynoecium
    - c) Corolla and Androecium
    - d) Androecium and Gynoecium

- 6) The primary function of stem is -----  
 a) To help in vegetative propagation      b) To bear and hold out the leaves  
 c) To anchor plants in soil.      d) To absorb water and minerals.
- 7) The leaf without petiole is called -----  
 a) Sessile      b) petiole      c) Sub-sessile      d) Sub-petiolate
- 8) ----- from the following is not the fruit.  
 a) Tomato      b) Cucumber      c) Pumpkin      d) Potato
- 9) A good example for phylloclade is -----  
 a) Opuntia      b) Hibiscus      c) Banayan      d) Argemone
- 10) Epicalyx represents -----  
 a) A whorl of bracts      b) A whorl of bracteoles  
 c) Involucre      d) An additional whorl of sepals.

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**SUBJECT CODE NO:- L-2031**  
**FACULTY OF SCIENCE**  
**B.Sc. S.Y. (Sem-III) Examination Oct/Nov 2018**  
**Botany Paper-VII**  
**Taxonomy of Angiosperms**

**[Time: 1:30 Hours]****[Max.Marks:50]**

- N.B Please check whether you have got the right question paper.  
 1) Attempt all questions.  
 2) Illustrate your answer with suitable well labelled diagram.
- Q.1 What is binomial nomenclature? Describe principles and rules of it. 20  
**OR**  
 What is Herbaria? Add a note on different steps used in Herbaria technique. 20
- Q.2 Describe in details family Lamiaceae upto floral formula and floral diagram. 20  
**OR**  
 Write short notes on any four: 20  
 a) Embryology  
 b) Genus concept  
 c) Floral structure of Poaceae  
 d) Economic importance of Solanaceae  
 e) Monadelphous stamen
- Q.3 Multiple Choice Questions. 10
- 1) Botanical name of Potato is -----  
 a) Solanum nigrum                      b) Solanum melongiana  
 c) Solanum tuberosum                  d) None of these
  - 2) Monochlamydeae condition is common character of ----- family.  
 a) Nyctagenaceae              b) Solanaceae              c) Acanthaceae              d) All of these
  - 3) Papilionaceous Corolla is typical flower seen in ----- family.  
 a) Mimosaceae              b) Caesalpinaceae              c) Fabaceae              d) None of these
  - 4) Attachment of Ovule on peripheral wall is ----- type.  
 a) Axile              b) Parietal              c) Basal              d) None of these
  - 5) Etaerio of berries fruit found in -----  
 a) Malvaceae              b) Mimosaceae              c) Annonaceae              d) Poaceae
  - 6) Lycopersicum esculanta belongs to family-----  
 a) Apocynaceae              b) Solanaceae              c) Malvaceae              d) None of these

- 7) Linnacus system of classification is an example of ----- system.  
a) Artificial                      b) Natural                      c) Phylogenetic                      d) None of them
- 8) Necotiana tabaccum belongs to ----- family.  
a) Solanaceae                      b) Fabaceae                      c) Poaceae                      d) None of them
- 9) Pentacarpellary ovary is common character of ----- family.  
a) Lamiaceae                      b) Fabaceae                      c) Poaceae                      d) Malvaceae
- 10) Liliaceae possess ----- type of flower.  
a) Dimerous                      b) Trimerous                      c) Pentamerous                      d) None of these



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**SUBJECT CODE NO:- L-2032**  
**FACULTY OF SCIENCE**  
**B.Sc. S.Y. (Sem-III) Examination Oct/Nov 2018**  
**Botany Paper-VIII**  
**Plant Ecology**

**[Time: 1:30 Hours]****[Max.Marks:50]**

Please check whether you have got the right question paper.

N.B

- i. Attempt all question
- ii. Draw neat & well labelled diagram whenever necessary.

Q.1 Explain in details the physico chemical properties of water. 20

**OR**

Describe in detail the temperature is an ecological factor? 20

Q.2 What are hydrophytes? Add a note on morphological, physiological & anatomical adaptations. 20

**OR**

Write short notes (any four) 20

- a) Halophytes
- b) Rhizophora
- c) Succulent plants
- d) Energy flow
- e) Soil profile
- f) Pyramid of mass number

Q.3 Multiple choice questions 10

1. Pneumatophores are the examples of
  - a) Hydrophyte
  - b) Halophytes
  - c) Heliophytes
  - d) none of these
2. Low temperature alpine vegetation are
  - a) Megatherms
  - b) Hekistotherms
  - c) Microtherms
  - d) all of these
3. The process by which soil formed
  - a) Development of soil
  - b) Weathering
  - c) Expansion
  - d) Cutting
4. Removal of fertile soil is called as
  - a) Soil fermentation
  - b) Soil erosion
  - c) Climate
  - d) Wind
5. Root cap absent in
  - a) Hydrophytes
  - b) Xerophyte
  - c) Mesophyte
  - d) none of these
6. Viviparous mode of seed germination is present in
  - a) Opuntia
  - b) Rhizophora
  - c) Chara
  - d) Cuscuta

7. In a food chain herbivores are
  - a) Producers
  - b) Decomposers
  - c) primary consumers
  - d) none of these
8. Scientific study of seasonal changes in life cycle of plant is known as
  - a) Phenology
  - b) Synecology
  - c) Auto technology
  - d) None of these
9. Which of the following pyramid is always upright
  - a) Biomass
  - b) Number
  - c) Energy
  - d) all of these
10. Which occurs at the top of ecological pyramid
  - a) Producer
  - b) Herbivores
  - c) Autotrophs
  - d) Carnivores

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**SUBJECT CODE NO:- L-2145**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y. (Sem-VI) Examination Oct/Nov 2018**  
**Botany Paper- XIX**  
**(Genetics and Biotechnology)**

[Time: 1:30 Hours]

[Max.Marks:50]

Please check whether you have got the right question paper.

N.B

- 1) Attempt all questions.
- 2) Draw neat and well-labeled diagram wherever necessary.

Q.1 What is sex determination? Explain in details sex determination in birds and grasshoppers. 20

**OR**

Describe fine structure of gene. Add a note on one gene one enzyme hypothesis. 20

Q.2 Explain in details techniques of genetic engineering and their application. 20

**OR**

Write a short note on any four of the following. 20

- a) Incomplete dominance
- b) Back cross and test cross
- c) Colour blindness
- d) Gynandromorphy
- e) Phage vectors
- f) Properties of restriction endonucleases

Q.3 Multiple choice questions: 10

- 1) Supplementary gene are also called as -----
  - a) Dominant epistasis
  - b) Duplicate dominant epistasis
  - c) Duplicate recessive epistasis
  - d) Recessive epistasis
- 2) X and Y chromosome were discovered by -----
  - a) Henking
  - b) Bridges
  - c) Stevens
  - d) McClueng
- 3) Sex determination was first studied in ----- plant.
  - a) Mirabilis
  - b) Rumex
  - c) Datura
  - d) Melandrium
- 4) Allelic gene interaction was found in ----- gene.
  - a) Complementary
  - b) Lethal
  - c) Supplementary
  - d) Duplicate
- 5) Hemophilia male if marry with normal female give birth to all ----- sons.
  - a) Normal
  - b) Hemophilic
  - c) Carrier
  - d) Both a and c

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**SUBJECT CODE NO:- L-2146**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y. (Sem-VI) Examination Oct/Nov 2018**  
**Botany Paper- XX**  
**(A) Diversity of Angiosperms – II**

[Time: 1:30 Hours]

[Max.Marks:50]

N.B Please check whether you have got the right question paper.

- i) Attempt all questions.  
 ii) Draw neat and well labeled diagram wherever necessary.

Q.1 Write in detail Numerical taxonomy. Add a note on cytotaxonomy. 20

**OR**

Write an essay on Binomial nomenclature. 20

Q.2 Describe in detail family Amaranthaceae. Add a note on two plants of economic importance. 20

**OR**

Write short notes on (any four) 20

- Taxonomic keys
- Benettitalean theory
- Merits and demerits of Engler and Prantl
- Floral characters of Commelinaceae
- Economic importance of plants of Convolvulaceae
- Advance characters of Orchidaceae

Q.3 Multiple choice questions. 10

- Herbarium of forest Research Institute of India is located at -----  
 a) Mysore      b) Trivandrum      c) Dehradun      d) Ooty
- The duplicate of holotype is called  
 a) Isotype      b) Paratype      c) Neotype      d) None of these
- IBC stands for  
 a) International Botanic Code      b) Indian Botanic Congress  
 c) International Biological Congress      d) International Botanic Congress
- Corolline corona is present in  
 a) Oleaceae      b) Asclepiadaceae      c) Verbenaceae      d) None of these
- Hutchinson system of classification is the type of  
 a) Natural system      b) Artificial system  
 c) Phylogenetic system      d) None of these
- Ricinus communis* belongs to family.  
 a) Oleaceae      b) Orchidaceae      c) Liliaceae      d) Euphorbiaceae

7. *Achyranthes aspera* plants belongs to  
a) *Amaranthaceae* b) *Scrophulariaceae*  
c) *Euphorbiaceae* d) *Verbenaceae*
8. Botanical name of safed musali is  
a) *Asparagus racemosus* b) *Chlorophytum borevillanum*  
c) *Cleome gynanadra* d) *Gloriosa superba*
9. Botanical name of 'Amarvel' is  
a) *Cuscuta rellflexa* b) *Ipomea cornea*  
c) *Acalypha Indica* d) None of these
10. Botanical name of 'Mogra' is  
a) *Jasminum multiflorum* b) *Jasminum officinale*  
c) *Jasminum sambac* d) None of these

OR

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**SUBJECT CODE NO:- L-2146**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y. (Sem-VI) Examination Oct/Nov 2018**  
**Botany Paper- XX**  
**(B) Economic Botany**

[Time: 1:30 Hours]

[Max.Marks:50]

- N.B Please check whether you have got the right question paper.  
 i) Attempt all questions.  
 ii) Draw neat and well-labeled diagrams wherever necessary.

Q.1 Describe origin, morphology, cultivation, harvesting and uses of Mustard. 20

**OR**

Write in brief.

- Morphology, cultivation and uses of Rice
- Morphology, cultivation and uses of Castor

Q.2 Describe Morphology, cultivation, Harvesting and uses of Banana. 20

**OR**

Write short notes on any four of the following.

- Morphology and uses of Chilli
- Origin and Cultivation of Tomato
- Origin and Morphology of Mango
- Cultivation and harvesting of Jute
- Morphology and uses of Pigeon Pea
- Cultivation and uses of Soybean

Q.3 Multiple Choice Questions. 10

- Scientific name of Paddy is -----  
 a. Avena Sativa                      b. Zea mays  
 c. Oryza Sativa                      d. Triticum aestivum
- Mustard oil is rich in -----  
 a. Erucic acid                      b. Linoleic acid  
 c. Palmatic acid                      d. Stearic acid
- Black gram belongs to family -----  
 a. Solanaceae                      b. Malvaceae                      c. Fabaceae                      d. Liliaceae
- Sunnhemp fibre is -----  
 a. Surface fibre                      b. Bast fibre                      c. Rough fibre                      d. Coir
- The most extensively cultivated cotton species is -----  
 a. Gossypium arboreum                      b. G. hirsutum  
 c. G. barbadense                      d. G. herbaceum

- 6) Roses are mainly grown in -----  
a. Bihar                      b. Maharashtra              c. Andhra Pradesh              d. Gujarat
- 7) Which state is largest producer of tea -----  
a. Assam                      b. Maharashtra              c. Haryana                      d. Tripura
- 8) Scientific name of cow pea -----  
a. *Cajanus cajan*                      b. *Vigna unguiculata*  
c. *Phaseolus mungo*                      d. *Phaseolus radiatus*
- 9) Onion crop is -----  
a. Annual                      b. Biennial                      c. Perennial                      d. Seasonal
- 10) Species are mainly grown in -----  
a. Kerala                      b. Odessa                      c. Bihar                      d. Telangana

OR



Total No. of Printed Pages:2

**SUBJECT CODE NO:- L-2146**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y. (Sem-VI) Examination Oct/Nov 2018**  
**Botany Paper- XX**  
**(C) Microbiology and Disease Management**

[Time: 1:30 Hours]

[Max.Marks:50]

N.B Please check whether you have got the right question paper.

- i) Attempt all questions.
- ii) Draw neat and well labeled diagrams wherever necessary.

Q.1 What is staining? Describe preparation and significance of cotton blue and gram's stain. 20

**OR**

Describe in detail Industrial application of Microorganism in preparation of Antibiotics and Bio pesticides. 20

Q.2 What is soil sterilization? Describe concept, objective and methods of soil sterilization. 20

**OR**

Write short notes on (any four) 20

- a) Plant quarantine
- b) Methods of seed treatment
- c) Mist blowers and dusters
- d) GMO
- e) Baristin
- f) 2, 4 – D

Q.3 Multiple choice questions – 10

- 1) ----- Technique is used for measurement of fungal Spores  
 a) Microtomy      b) Spectroscopy      c) Micrometry      d) Chromatography
- 2) In India mostly used bio-pesticide is -----  
 a) Baristin      b) Copper sulphate      c) Neem      d) Zinc sulphate
- 3) The zinc phosphate is used as -----  
 a) Herbicide      b) Rhodenticide      c) Fungicide      d) Weedicide
- 4) The hormones secreted by some insects is termed as -----  
 a) Pyrethrum      b) GMO      c) Pheromones      d) Nemagon
- 5) Mishandling of pesticide pyrethrum leads to disease like -----  
 a) Paralysis      b) Malaria      c) Anemia      d) Cholera
- 6) Roughing is a ----- method of plant disease control.  
 a) Cultural      b) Chemical      c) Biological      d) Natural

- 7) Streptomycin is prepared from -----  
a) Pseudomonas    b) Xanthomonas    c) E.Coli    d) Streptomyces spp
- 8) The PDA (Potato Dextrose Agar) is used for isolation of -----  
a) Virus    b) Fungi    c) Algae    d) Mycoplasma
- 9) The sterilization in ----- is termed as wet heat sterilization.  
a) Autoclave    b) Oven    c) Incubator    d) Laminar air flow
- 10) Bordcaux mixture firstly discovered by ----- in 1882.  
a) Prevost    b) Milardet  
c) John smith    d) R.S. singh

OR

Total No. of Printed Pages:2

**SUBJECT CODE NO:- L-2146**  
**FACULTY OF SCIENCE AND TECHNOLOGY**  
**B.Sc. T.Y. (Sem-VI) Examination Oct/Nov 2018**  
**Botany Paper- XX**  
**(D) Bioinformatics**

**[Time: 1:30 Hours]**

**[Max.Marks:50]**

N.B Please check whether you have got the right question paper.

- i) Attempt all questions.  
 ii) Draw neat and well labeled diagram wherever necessary.

Q.1 What is bioinformatics? Add its application in life science. 20

**OR**

What is probability? Explain in detail chi-square test and t-test. 20

Q.2 What is software? Add a note on MSDOS and Linux. 20

**OR**

Write short notes on (any four) of the following. 20

- a) Sampling techniques
- b) Polygon
- c) Histogram
- d) CPU
- e) Mode
- f) CCOD

Q.3 Multiple choice question. 10

- 1) The application of structural unit in biology is
  - a) Statistics in biology
  - b) Statistic in vivo
  - c) Biostatistics
  - d) All of the above
- 2) Flower colour is a -----
  - a) Quantitative variable
  - b) Qualitative variable
  - c) Continuous
  - d) Absolute variable
- 3) LAN means -----
  - a) Local area network
  - b) Linear area network
  - c) Local aware network
  - d) Linear area net web
- 4) Frequency curve is -----
  - a) Line shaped
  - b) Inverted bell shape
  - c) Parallel bell shaped
  - d) Perpendicular shape
- 5) Dynamic directory approach is illustrated by the department of ARPANET is -----
  - a) Forestry
  - b) Home
  - c) Defence
  - d) Rural

- 6) In biostatistics group of individuals taken for study is called  
a) Block      b) Population   c) Group      d) Flock
- 7) Chi-square is zero when ----- expected.  
a) Less than above frequency  
b) Greater than above frequency  
c) Frequency is equal to observed frequency  
d) Double frequency
- 8) The median of a series of numerical value is -----  
a) Equal average                      b) Number  
c) Frequency table                  d) Graph
- 9) Line diagram in the form of ----- lines.  
a) Rectangular      b) Vertical      c) Pie      d) Bar
- 10) A frequency polygon is -----  
a) Scattering series of value  
b) Graph contain less information  
c) A graph broken line  
d) Graph contain more information