FEDERAL PUBLIC SERVICE COMMISSION

COMPETITIVE EXAMINATION FOR RECRUITMENT TO POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT, 2011

Roll Number

BOTANY, PAPER-I

TIME ALLOWED:	**(PART-I MCQs)**	**30 MINUTES**	**MAXIMUM MARKS: 20**
THREE HOURS	**(PART-II)**	**2 HOURS & 30 MINUTES**	**MAXIMUM MARKS: 80**

NOTE: **(i)** **First** attempt **PART-I (MCQs)** on separate Answer Sheet which shall be taken back after 30 minutes.

(ii) **Overwriting/cutting of the options/answers will not be given credit.**

(PART-I MCQs) (COMPULSORY)

Q.1. Select the best option/answer and fill in the **appropriate box** on the **Answer Sheet**. **(1 x 20=20)**

(i) Tiny plants with silicon cells are:
(a) Diatoms (b) Zooplanktons (c) Fungi (d) None of these

(ii) Withania somnifera belongs to the family:
(a) Solanaceae (b) Brassicaceae (c) Poaceae (d) None of these

(iii) The 1st root of the seed plant develops from the radical is called:
(a) Tap root (b) Aerial root (c) Adventitious root (d) None of these

(iv) Mycorrhiza is the symbiotic association between:
(a) Algae and Fungi (b) Angiosperms and Fungi
(c) Lichens and Fungi (d) None of these

(v) New Ulva plant after undergoing meiosis produces _____ Zoospores:
(a) Monoflagellated (b) Biflagellated (c) 4-flagellated (d) None of these

(vi) Alternation of generation in Moss is:
(a) Isomorphic (b) Heteromorphic (c) Absent (d) None of these

(vii) Most primitive family is:
(a) Magnoliaceae (b) Poaceae (c) Malvaceae (d) None of these

(viii) Laminaria is the example of:
(a) Red Algae (b) Brown Algae (c) Green Algae (d) None of these

(ix) The chief component of the cell wall of fungi is the:
(a) Pectin (b) Chitin (c) Lignin (d) None of these

(x) Formation of fruit without fertilization:
(a) Apomixis (b) Polyembryony (c) Parthenocarpy (d) None of these

(xi) National flower of Pakistan is:
(a) Jasminum (b) Cestrum nocturnum (c) Pisum sativum (d) None of these

(xii) Zygomycetes have their common name as:
(a) Imperfect Fungi (b) Conjugating Fungi (c) Sac Fungi (d) None of these

(xiii) Filaments of Algae are composed either of distinct cells:
(a) Gametocytes (b) Coenocytes (c) Heterocysts (d) None of these

(xiv) The bryophytes are also called:
(a) Sporogonium (b) Amphibians (c) Arthrophytes (d) None of these

(xv) The first plant which developed true leaves and roots are:

(a) Pteropsids (b) Lycopsids (c) Psilopsids (d) None of these

(xvi) An ovule is:

(a) Fertilized seed (b) Integumented Indehiscent megasporangium

(c) Dehiscent megasporangium (d) None of these

(xvii) An angiosperms the female gametophyters contain:

(a) 1 – several cells (b) 7 cells only (c) 3 cells (d) None of these

(xviii) Sporophyte of Bryophytes is also called as:

(a) Sporangium (b) Sporogonium (c) Prothallus (d) None of these

(xix) One of the examples of crustose lichen is:

(a) Basidia (b) Dermatrocarpus (c) All of these (d) None of these

(xx) The scientific name of Bringal is:

(a) Solanum tuberosum (b) Solanum melongena

(c) Nicotiana tabaccum (d) None of these

PART-II

NOTE: **(i)** **PART-II** is to be attempted on separate Answer Book.
(ii) **Attempt ONLY FOUR questions from PART-II. All questions carry EQUAL marks.**
(iii) **Extra attempt of any question or any part of the attempted question will not be considered.**

Q.2. Briefly describe the life cycle of Bryophytes. **(20)**

Q.3. Write detailed notes on the different stages of mitosis. Draw diagrams. **(20)**

Q.4. Write down the salient features of family Rosaceae and its economic importance. **(20)**

Q.5. Give detailed note on the life cycle of Angiosperm up to the development of seed. **(20)**

Q.6. Define tissue. What are meristematic tissues and also classify them on different basis? **(20)**

Q.7. What are lichens? How lichens are beneficial for the universe? **(20)**

Q.8. Write the characteristic features of Gymnosperms. How they differ from Angiosperms and Pteridophytes. **(20)**

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COMPETITIVE EXAMINATION FOR RECRUITMENT TO POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT, 2011

Roll Number

BOTANY, PAPER-II

TIME ALLOWED:	**(PART-I MCQs)**	**30 MINUTES**	**MAXIMUM MARKS: 20**
THREE HOURS	**(PART-II)**	**2 HOURS & 30 MINUTES**	**MAXIMUM MARKS: 80**

NOTE: **(i)** **First** attempt **PART-I (MCQs)** on separate Answer Sheet which shall be taken back after 30 minutes.

(ii) **Overwriting/cutting of the options/answers will not be given credit.**

(PART-I MCQs) (COMPULSORY)

Q.1. Select the best option/answer and fill in the **appropriate box** on the **Answer Sheet.** **(1 x 20=20)**

(i) Reduction takes place in ------ stage of meiosis.

(a) Metaphase I (b) Anaphase I (c) Telophase I (d) None of these

(ii) Group of young cells which are capable of active cell division is called:

(a) Meristem (b) Parenchyma (c) Periderm (d) None of these

(iii) Genetic basis of ABO blood group system was explained by;

(a) Landsteiner (b) Levine (c) Bernstein (d) None of these

(iv) Allele for whiteness in Drosophila is:

(a) Recessive (b) Dominant (c) Codominant (d) None of these

(v) Major unit of Ecology is:

(a) Ecosystem (b) Biosphere (c) Community (d) None of these

(vi) Primary succession that starts on dry soil/rock is called:

(a) Derosere (a) Xerosere (a) Lithosere (a) None of these

(vii) The way Glucose is metabolized/oxidized depends on the availability of:

(a) CO_2 (b) O_2 (c) Energy (d) None of these

(viii) The absorbing peak of Chlorophyll is:

(a) 680 (b) 670 (c) All of these (d) None of these

(ix) Light can work in photosynthesis only when it is:

(a) Absorbed (b) Transmitted (c) Reflected (d) None of these

(x) Cellular respiration consists of:

(a) Glycosis (b) Kreb's cycle and respiratory chain (c) All of these (d) None of these

(xi) The chemical wastes from Industry are called as:

(a) Effluents (b) Garbage (c) Sewage (d) None of these

(xii) All chromosomes other than sex chromosomes are called as:

(a) Autosomes (b) Dictyosomes (c) Autophagosomes (d) None of these

(xiii) Actual place/location where organism lives is called as:

(a) Habitat (b) Domain (c) Niche (d) None of these

(xiv) In roots and stems having secondary growth, the epidermis is replaced by a protective layer called:

(a) Phellogen (b) Periderm (c) Cuticle (d) None of these

(xv) The stomata with 2 large and one small subsidiary cells surrounding stoma is called as:

(a) Diacytic (b) Anisocytic (c) Cyclocytic (d) None of these

(xvi) Vacuoles are filled with watery fluid called as:

(a) Cell sap (a) Enzymes (a) Plastids (a) None of these

(xvii) The chromosomes arrange themselves on the equator of spindle fibres during:

(a) Metaphase (b) Anaphase (c) Telophase (d) None of these

(xviii) The event that gives rise to the heritable alteration in the genotype is termed as:

(a) Translocation (b) Abnormality (c) Mutation (d) None of these

(xix) The sequence of genes along the DNA strand is called as:

(a) Genetic code (b) Chromosomal aberration (c) DNA sequence (d) None of these

(xx) Chemicals used to destroy animal pests are:

(a) Herbicides (b) Pesticides (c) Insecticides (d) None of these

PART-II

NOTE:**(i)** **PART-II** is to be attempted on separate Answer Book.
(ii) **Attempt ONLY FOUR questions from PART-II. All questions carry EQUAL marks.**
(iii) **Extra attempt of any question or any part of the attempted question will not be considered.**

Q.2. What is dormancy? Enlist different methods to break dormancy? **(20)**

Q.3. Write down short notes on: **(7+7+6=20)**

(a) Food chain **(b)** Vernalization **(c)** Adaptive mutations

Q.4. Give the Biosynthesis and mode of action of Abscissic acid. **(20)**

Q.5. Define linkage. Explain the phenomenon of coupling and repulsion with reference to linkage. Give example. **(20)**

Q.6. What do you mean by evolution? How would you explain Lamarkism? **(20)**

Q.7. Define Mitosis and enlist its different stages? **(20)**

Q.8. Write short notes on **ANY TWO** of the following: **(10+10)**

(a) What is water logging? Give its causes and reclamation?

(b) What is transpiration and also give its various types.

(c) Elaborate the mechanism of stomatal movement?

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