

**PRACTICE PAPER
AND MOCK TEST FOR
NEET : BOTANY**

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NEET : BOTANY**

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Mock Test Paper 1

- Potato and sweet potato are similar at the level of
(a) Order (b) Family (c) Genus (d) Tribe
- Plaques are related to
(a) T₂ phage (b) T₄ phage (c) Prophage (d) Lysogenic phage
- In bacteriophage the number of tail pins and tail fibres is
(a) 4 and 4 (b) 4 and 6 (c) 6 and 4 (d) 6 and 6
- Which of the following groups of bacteria help in recycling of nutrients?
(a) Photoautotrophs (b) Chemoautotrophs
(c) Photoheterotrophs (d) Chemoheterotrophs
- Which of the following is odd with respect to homogametic organism?
(a) Fucus (b) *Cladophora* (c) *Rhizopus* (d) *Synchytrium*
- The number of neck canal cells in archegonia of *Funaria*, *Dryopteris* and *Pinus* are, respectively
(a) 1, 6-10 and zero (b) 6-10, 1 and zero (c) Zero, 1 and 6-10 (d) Zero, 6-10 and 1
- Male and female gametophytes do not have free living and independent existence in
(a) *Funaria* (b) *Pteris* (c) *Cycas* (d) All of the above
- Which of the following plants shows opposite decussate phyllotaxy?
(a) *Ficus* (b) *Calotropis* (c) *Quisqualis* (d) *Syzygium*
- Which of the following structures found in dicot seed will be genetically identical to its maternal plant?
(a) Radicle (b) Cotyledon (c) Endosperm (d) Testa
- The remnant of nucellus in seed is known as
(a) Caruncle (b) Aril (c) Chalazosperm (d) Perisperm
- Which of the following compounds is used in the chemical analysis of living tissues?
(a) Acetic acid (b) Trichloroacetic acid (c) Glucose (d) Formaldehyde
- Suberised Casparian strips are found in
(a) Dicot root (b) Dicot stem (c) Monocot stem (d) All of the above
- Which of the following statements is wrong regarding smaller cells?
(a) These are more efficient (b) These are more metabolically active
(c) These have high N:C ratio (d) These have low surface: volume ratio
- The periplasmic space in prokaryotic cell is analogous to
(a) Lysosome (b) Ribosome (c) Mesosome (d) Nucleoid

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15. The rRNAs of larger subunit of 80 S ribosome are
(a) 28S, 5.8S and 5S (b) 23S, 5.8S and 5S (c) 28S and 5S (d) 23S and 5.8S
16. The lipid tails in plasma membrane are
(a) Polar and hydrophilic (b) Polar and hydrophobic
(c) Nonpolar and hydrophilic (d) Nonpolar and hydrophobic
17. Maturation promotric factor (PMF) formation triggers cell to cross
(a) G_0 to G_1 (b) G_1 to S (c) S to G_2 (d) G_2 to M
18. The anaphase 1 of meiosis is characterized by
(a) Division of centromere
(b) Separation of chromatids
(c) Separation of homologous pair of chromosomes
(d) All of the above
19. The rate of transpiration is maximum when
(a) Soil is wet and air is dry (b) Soil is dry and air is humid
(c) Both soil and air are dry (c) Both soil and air are humid
20. Turgor pressure becomes negative in
(a) Incipient plasmolysis (b) Evident plasmolysis
(c) Limiting plasmolysis (d) Both a and b
21. Plants die from prolonged water logging because
(a) Nutrients leach down (b) Cell sap becomes very dilute
(c) Soil nutrients become very dilute (d) Root respiration stops
22. Which of the following elements maintains the turgidity in cells?
(a) Potassium (b) Calcium (c) Sodium (d) Magnesium
23. When sunlight is on the chloroplast, the pH is the lowest in
(a) Stroma (b) Thylakoid lumen
(c) Cytosol (d) Perichondrial space
24. The first stable product formed in Calvin cycle of C_3 plants firstly undergoes process of
(a) Reduction (b) Dehydration (c) Phosphorylation (d) Oxidation
25. Which of the following intermediates of respiration enters both dehydrogenation and decarboxylation?
(a) Pyruvic acid (b) Citric acid (c) Isocitric acid (d) Oxaloacetic acid
26. Which of the following phytohormones is growth promoter as well as growth inhibitor?
(a) Auxin (b) ABA (c) Ethylene (d) All of the above
27. How many oxygen atoms are required for complete oxidation of one molecule of phosphoglyceraldehyde?
(a) 2 (b) 3 (c) 4 (d) 6
28. A small protein attached to outer surface of inner membrane of mitochondria and acts as mobile electron carrier for transport of electron is
(a) Cytochrome c (b) Cytochrome b (c) Cytochrome a (d) Cytochrome a3

29. Which of the following is surrounded by a callose wall?
 - (a) Microspore mother cell
 - (b) Pollen grain
 - (c) Male gamete
 - (d) Egg
30. Embryo doesn't show distinction of plumule, radicle and cotyledon in
 - (a) Orobanchae
 - (b) *Utricularia*
 - (c) Both a and b
 - (d) *Cuscuta*
31. Elimination of bad traits from a plant is possible when it is reproducing
 - (a) Asexually by spores
 - (b) Asexually by propagule
 - (c) Vegetatively by grafting
 - (d) Sexually by meiosis and syngamy
32. A homozygous tall pistillate plant is crossed with dwarf staminate plant then the genotype of endosperm will be
 - (a) TTt
 - (b) TTT
 - (c) ttt
 - (d) ttT
33. What would be the number of tall and pink plants if tall and pink plants (TtRr) are selfed, if first character shows complete dominance and second character shows incomplete dominance?
 - (a) 3/16
 - (b) 6/16
 - (c) 9/16
 - (d) 1/16
34. How many gametes are formed if B and C are linked in genotype AaBbCcDDEe?
 - (a) 4
 - (b) 6
 - (c) 8
 - (d) 16
35. Blood group inheritance in human beings shows
 - (a) Dominance
 - (b) Codominance
 - (c) Multiple alleles
 - (d) All of the above
36. How many RNA polymerase enzymes are involved in eukaryotic transcription?
 - (a) One
 - (b) Two
 - (c) Three
 - (d) Four
37. The chain termination in translation of protein synthesis involves
 - (a) Release factor
 - (b) Elongation factor
 - (c) Rho factor
 - (d) Sigma factor
38. Assuming that there are 6 types of nitrogenous bases available and 40 types of amino acids are available for protein synthesis, then how many nitrogenous bases form each codon in genetic code?
 - (a) 2
 - (b) 3
 - (c) 4
 - (d) 5
39. Which of the following fungi shows variation in universal genetic code?
 - (a) Yeast
 - (b) *Rhizopus*
 - (c) *Agaricus*
 - (d) *Neurospora*
40. Human genome project was completed in
 - (a) 2001
 - (b) 2002
 - (c) 2003
 - (d) 2005
41. Which of the following varieties of maize is lysine rich?
 - (a) Proteins
 - (b) Shakti
 - (c) Rattan
 - (d) All of the above
42. Somaclonal variation can be advantageous because
 - (a) These produce monosomics
 - (b) These produce high genetic uniformity
 - (c) These produce chromosomal abnormalities
 - (d) These enrich genetic diversity
43. Which of the following is left undegraded during anaerobic digestion of organic waste for producing biogas?
 - (a) Cellulose
 - (b) Lipid
 - (c) Lignin
 - (d) All of the above

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44. If recombinant DNA is introduced into animal cell then this process is known as
(a) Transformation (b) Transduction (c) Transfection (d) Conjugation
45. Which of the following is most efficient method of delivery of direct genes in organism?
(a) Electroporation (b) Gene gun (c) Microinjection (d) Particle gun
46. Which of following conditions occurs in midgut of an insect by which inactive toxin is converted to active toxin?
(a) Acidic pH (b) Neutral pH (c) Alkaline pH (d) At any pH
47. Small animals are rarely found in polar region because of
(a) Low body temperature (b) High rate of respiration
(c) Low surface to volume ratio (d) High cost of thermoregulation
48. Endotherms are characterized by
(a) High assimilation efficiency and low production efficiency
(b) Low assimilation efficiency and high production efficiency
(c) High assimilation efficiency and high production efficiency
(d) Low assimilation efficiency and low production efficiency
49. The intermediate form between two ecosystems is called
(a) Ecophene (b) Ecotone (c) Edge effect (d) Ecocline
50. The fastest secondary succession occurs in
(a) Fire (b) Flood (c) Earthquake (d) Volcano
51. If 50 kcal of energy is trapped at producer level, then how much energy will be available to peacock as food in the following chain
Plant > Mice > Snake > Peacock
(a) 5 kcal (b) 0.5 kcal (c) 0.05 kcal (d) 12.5 kcal
52. Secondary productivity is available to
(a) Producer level (b) Herbivore level (c) Carnivore level (d) At all levels
53. India became a party to the convention on biodiversity in
(a) 1990 (b) 1992 (c) 1994 (d) 1996
54. Which of the following UV radiations is transparent to ozone and reaches the earth surface?
(a) UV-A (b) UV-B (c) UV-C (d) All of the above
55. Kyoto protocol was endorsed at
(a) COP-2 (b) COP-3 (c) COP-4 (d) COP-5

Mock Test Paper 2

- Which of the following is an example of monotypic genus?
(a) *Solanum* (b) *Panthera* (c) *Homo* (d) All of the above
- Biological organisation starts with
(a) Submicroscopic molecular level (b) Atomic level
(c) Cellular level (d) Organism level
- Murein and chitin are similar in
(a) NAG (b) NAM (c) Cellulose (d) Protein
- Which of the following protists lacks flagella?
(a) *Euglena* (b) *Gymnodinium* (c) *Gonyaulax* (d) *Pinnularia*
- Which of the following bryophytes represents algal ancestry in presence of pyrenoid?
(a) *Riccia* (b) *Marchantia* (c) *Anthoceros* (d) *Sphagnum*
- Megaphyllous pteridophytes belong to the class
(a) Psilotopsida (b) Lycopsidea (c) Sphenopsida (d) Filicopsida
- There are three generations in the seed of gymnosperms but the future sporophyte generation is represented by all except
(a) Radicle (b) Cotyledon (c) Suspensor (d) Tegmen
- Multiple root cap is found in
(a) Pineapple (b) Screw pine (c) Blue pine (d) All of the above
- Which of the following plants shows cylindrical phylloclade?
(a) Cactus (b) *Coccoloba* (c) *Euphorbia* (d) All of the above
- The vegetative shoot apex is
(a) Dome shaped (b) Flat
(c) Triangular (d) Dumb bell shaped
- Collenchymatous hypodermis is found in
(a) Monocot stem (b) Monocot root (c) Dicot stem (d) Dicot root
- The cork cambium in dicot root develops from
(a) Cortex (b) Pericycle (c) Endodermis (d) Medullary rays
- The formation of complete circular ring is partly primary and partly secondary in
(a) Monocot root (b) Dicot root (c) Monocot stem (d) Dicot stem
- The nucleoid in bacterial cell is
(a) Single, circular and double stranded (b) Single, circular and single stranded
(c) Double, linear and double stranded (d) Double, linear and double stranded

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15. The binucleate condition is seen in
(a) *Euglena* (b) *Ascaris* (c) *Paramecium* (d) *Mucor*
16. Cilia and flagella contain
(a) 9 doublets and no singlet (b) 9 doublets and 1 singlet
(c) 9 doublets and 2 singlets (d) 2 doublets and 9 singlets
17. Condensation of chromatin in chromosome occurs at
(a) G1 phase (b) S phase (c) G2 phase (d) M phase
18. Mustard gas acts as mitotic poison which causes
(a) Agglutination of chromosomes (b) Formation of chromatin
(c) Dissolution of spindle fibres (d) All of the above
19. Transpiration coefficient is minimum for
(a) Wheat (b) Maize (c) *Begonia* (d) All of the above
20. Which of the following is zero when a cell is fully turgid?
(a) Osmotic pressure (b) Turgor pressure (c) Suction pressure (d) Wall pressure
21. Which of the following elements is difficult to be remobilised?
(a) Iron (b) Nitrogen (c) Magnesium (d) Potassium
22. The stroma lamellae lacks
(a) PS I and ATPase (b) PS II and NADP reductase
(c) PS I and NADP reductase (d) PS II and ATPase
23. Which of the following does not affect the rate of photosynthesis in plants growing in shade or in dense forest?
(a) Intensity of light (b) Duration of light (c) CO₂ (d) Temperature
24. The oxidative decarboxylation in complete respiration occurs at
(a) One place (b) Two places (c) Three places (d) Four places
25. How many decarboxylation reactions in Krebs cycle are associated with the release of NADH₂?
(a) One (b) Two (c) Three (d) Four
26. The shape of graph plotted for absolute growth rate for various time of grand period of growth is
(a) Sigmoid (b) Straight line (c) Hyperbola (d) Bell shaped
27. When a plant is not reproducing then most of the cytokinins are produced in its
(a) Root (b) Leaves (c) Lateral bud (d) Shoot apex
28. How many ATPs are produced from one molecule of 1,3-diPGAL through electron transport chain?
(a) 12 (b) 15 (c) 17 (d) 22
29. Which of the following phytohormones is substitute for vernalisation?
(a) Auxin (b) Gibberellin (c) Cytokinin (d) Ethylene
30. The protein in the pollen wall that causes allergy is contributed by
(a) Tapetum (b) Endothecium (c) Exine of pollen (d) Intine of pollen
31. Funicle gets fused with the nucellus along one side and forms a ridge called
(a) Hilum (b) Epiblast (c) Funicle (d) Raphe

32. A homozygous dwarf pistillate plant is crossed with tall staminate plant then the genotype of endosperm will be
 (a) TTt (b) Ttt (c) TTT (d) ttt
33. What is the sum total of phenotypes and genotypes in F₂ generation if a character is controlled by two pairs of pooygene?
 (a) 8 (b) 9 (c) 12 (d) 14
34. A carrier female for colour blindness is married to a haemophilic male. They produce eight children. How many of them will suffer from both haemophilic and colour blindness?
 (a) 0% (b) 25% (c) 50% (d) 100%
35. A woman whose father is colour blind but mother is normal is married to a haemophilic man with hypertrichosis. What percentage of their children will show genotypically any two of the traits out of three mentioned above at a given time?
 (a) 0% (b) 25% (c) 50% (d) 100%
36. It is known that there is large difference in DNA content between two organisms with similar developmental complexity. This is due to large differences in the number of
 (a) Repetitive DNA and transposable elements
 (b) Introns and transposable elements
 (c) Exons and transposable elements
 (d) Introns, exons and transposable elements
37. *E.coli* takes 40 min.to duplicate its genome using a bidirectional mode of replication. If *E.coli* were to use unidirectional mode of replication to synthesise a full copy of DNA complimentary to just one of the strands of the genome, it would take
 (a) 40 minutes (b) 80 minutes (c) 120 minutes (d) 160 minutes
38. The core of nucleosome contains
 (a) Histone dimer (b) Histone tetramer (c) Histone hexamer (d) Histone octamer
39. RNA polymerase II synthesises
 (a) mRNA (b) tRNA (c) 5 S rRNA (d) 5.8 S rRNA
40. Which of the following vectors is used in sequence annotations of Human genome project?
 (a) Plasmid (b) Cosmid
 (c) Phagemid (d) Yeast artificial chromosome
41. Atlas 66, a famous wheat variety, has high content of
 (a) Protein (b) Oil (c) Vitamin (d) All of the above
42. Alexander Fleming discovered penicillin from a mould, *Penicillium notatum* while working on
 (a) *Staphylococcus* (b) *Streptococcus* (c) *Clostridium* (d) *Bacillus*
43. The anaerobic sludge digester in secondary treatment of sewage contains gases such as
 (a) Methane and carbon dioxide
 (b) Methane, hydrogen sulphide and carbon dioxide
 (c) Methane and ammonia
 (d) Methane, ammonia and carbon dioxide

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44. Which of the following restriction enzymes produces blunt ends?
(a) *Eco* R I (b) *Hin* d III (c) *Alu* I (d) *Bam* H I
45. Cosmid is an artificial vector which includes *cos* site having
(a) 6 bases of lambda phage (b) 12 bases of lambda phage
(c) 20 bases of lambda phage (d) 100 bases of lambda phage
46. Tissue plasminogen activator is a recombinant protein which is used in the treatment of
(a) Cancer (b) Haemophilia (c) Cystic fibrosis (d) Heart disease
47. Which of the following is stenothermal?
(a) Toad (b) Polar bear (c) Lizard (d) Bird
48. Which of the following is not the parasitic adaptations in the parasites?
(a) Anaerobic respiration (b) Loss of digestive system
(c) Less developed reproductive system (d) Excessive multiplication
49. Which of the following is the most limiting nutrient in marine ecosystem?
(a) Nitrogen (b) Carbon (c) Phosphorus (d) Sulphur
50. Which of the following belongs to the category of primary, secondary and tertiary carnivore?
(a) Frog (b) Lizard (c) Insectivorous bird (d) Peacock
51. Pyramid of biomass is inverted in
(a) Forest ecosystem (b) Pond ecosystem
(c) Grassland ecosystem (d) Parasitic food chain
52. Maximum biodiversity is seen in
(a) Fish (b) Amphibians (c) Reptiles (d) Mammals
53. Which of the following emission norms will be adopted in 2020?
(a) Bharat stage III (b) Bharat stage IV (c) Bharat stage V (d) Bharat stage VI
54. El-Nino effect is concerned with
(a) Change in season and seasonal characters
(b) Increase in sea level
(c) Increase in global warming
(d) All of the above
55. Chipkoo movement was started from
(a) Karnataka (b) Odisha (c) Uttaranchal (d) Maharashtra

Mock Test Paper 3

- Which of the following taxonomic aids is used for both plants and animals?
(a) Museum (b) Herbarium (c) Botanical garden (d) Zoological park
- In the five kingdom classification *Chlamydomonas* and *Chlorella* have been included in
(a) Monera (b) Protista (c) Fungi (d) Plantae
- Mycoplasma is not affected by penicillin because it lacks
(a) DNA (b) RNA (c) Ribosome (d) Cell wall
- Water is not required to transfer male gametes in
(a) *Spirogyra* (b) *Ulothrix* (c) *Chlamydomonas* (d) All of the above
- How many daughter plants will form from four detached gemmae in the body of *Marchantia*?
(a) 2 (b) 4 (c) 8 (d) 16
- What is the ploidy of columella, calyptra, sporocyte, pseudoelater and egg in *Funaria*
(a) $n, 2n, 2n, 2n, n$ (b) $2n, n, 2n, 2n, n$ (c) $2n, n, 2n, n, n$ (d) $2n, n, n, 2n, n$
- Wood of *Cycas* is
(a) Monoxyle and pycnoxylic (b) Monoxyle and manoxyle
(c) Polyxyle and pycnoxylic (d) Polyxyle and manoxyle
- Polyadelphous condition of stamen is seen in
(a) Cereals (b) Citrus plants (c) Oil seeds (d) Nuts
- Among pea, potato, tulip, lily, petunia, lupin, and tobacco, how many plants show adhesion of stamens?
(a) 3 (b) 4 (c) 5 (d) 6
- In cereals, the single cotyledon of embryo is represented by
(a) Coleoptile (b) Coleorhiza (c) Prophyll (d) Scutellum
- Medullary rays are tissues made up of
(a) Phloem parenchyma (b) Phloem fibres
(c) Xylem parenchyma (d) Xylem fibres
- Bulliform cells are found in
(a) Abaxial side of grass leaf (b) Adaxial side of grass leaf
(c) Abaxial side of *Ficus* leaf (d) Adaxial side of *Ficus* leaf
- Exodermis is formed in some dicots and most of monocot roots just below the epidermis which becomes suberised. It develops from
(a) Cortex (b) Endodermis (c) Pericycle (d) Vascular parts

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14. Plasma membrane in mammalian RBCs contains
 - (a) 40% lipid and 52% protein
 - (b) 52% lipid and 40% protein
 - (c) 80% lipid and 20% protein
 - (d) 20% lipid and 80% protein
15. How many meiotic divisions are required to produce 102 pollen grains?
 - (a) 25
 - (b) 25.5
 - (c) 26
 - (d) 100
16. If pressure greater than atmospheric pressure is applied to pure water or a solution, then its water potential
 - (a) Decreases
 - (b) Increases
 - (c) Remains unchanged
 - (d) First decreases then increases
17. Starch of guard cell is converted to phosphoenol pyruvate by
 - (a) Dehydration
 - (b) Decarboxylation
 - (c) Isomerisation
 - (d) Hydrolysis
18. The highest DPD is observed in
 - (a) Flaccid cell
 - (b) Partially turgid cell
 - (c) Fully turgid cell
 - (d) Plasmolysed cell
19. The toxic mineral ion concentration present in tissue can reduce the dry weight by
 - (a) 1%
 - (b) 10%
 - (c) 25%
 - (d) 50%
20. The nodule of a few leguminous plants such as soyabean exports the fixed nitrogen in the form of
 - (a) Amino acid
 - (b) Ammonia
 - (c) Ureides
 - (d) Amides
21. The number of mobile electron carriers present in thylakoid is
 - (a) One
 - (b) Two
 - (c) Three
 - (d) Four
22. What will happen when an illuminated suspension of *Chlorella* is actively carrying out photosynthesis and suddenly light is switched off?
 - (a) The concentration of PGA will increase but that of RuBP will decrease
 - (b) The concentration of PGA will decrease but that of RuBP will increase
 - (c) The concentrations of both PGA and RuBP will decrease
 - (d) The concentrations of both PGA and RuBP will increase
23. Which of the following is called pacemaker enzyme?
 - (a) Hexokinase
 - (b) Phosphofructokinase
 - (c) Aldolase
 - (d) Enolase
24. Which of the following enzymes of Krebs cycle performs its catalytic activity similar to pyruvate dehydrogenase enzyme?
 - (a) Alpha ketoglutarate dehydrogenase
 - (b) Succinic dehydrogenase
 - (c) Malate dehydrogenase
 - (d) Thiokinase
25. Gibberellin causes flowering in non-inductive period in
 - (a) Rice
 - (b) *Xanthium*
 - (c) Soyabean
 - (d) Barley
26. How many molecules of metabolic water are formed when one molecule of alpha ketoglutaric acid enters Krebs cycle directly?
 - (a) 3
 - (b) 4
 - (c) 5
 - (d) 6
27. Which of the following enzymes of glycolysis can be regulated by feedback inhibition?
 - (a) Hexokinase
 - (b) Phosphofructokinase
 - (c) Aldolase
 - (d) Enolase

28. The first reaction in chemosynthesis is
 (a) Reduction (b) Oxidation (c) Dehydration (d) Decarboxylation
29. A perennial plant which bears flowers throughout the year is
 (a) Banana (b) Mango (c) China rose (d) Apple
30. How many total divisions are required to produce 4 trinucleate male gametophyte from sporophytic cell?
 (a) 5 (b) 6 (c) 8 (d) 9
31. Which of the following layers of anther wall contains alpha cellulosic fibrous bands?
 (a) Epidermis (b) Endothecium (c) Middle layers (d) Tapetum
32. Attractants and rewards are essential for pollination by
 (a) Water (b) Air (c) Insects (d) All of the above
33. Genes for producing starch branching enzyme in pea is located on
 (a) Chromosome number 1 (b) Chromosome number 4
 (c) Chromosome number 5 (d) Chromosome number 7
34. Mr. Z is haemophilic and carrier for albinism. What percentage of sperm have defective alleles of both traits?
 (a) 25 % (b) 50 % (c) 75 % (d) 100 %
35. If maximum weight of orange is 60 gr and minimum weight is 30 gr. What will be the average weight of orange novariety with genotype Aabbcc?
 (a) 30 gr (b) 40 gr (c) 45 gr (d) 50 gr
36. The monohybrid ratio in haploid organisms is
 (a) 1:1 (b) 3:1 (c) 1:2:1 (d) 1:1:1:1
37. Which of the following carbon atoms is always occupied by an organic base?
 (a) First (b) Second (c) Third (d) Fifth
38. Unusual bases are not found in
 (a) mRNA (b) rRNA (c) tRNA (d) Both a and b
39. DNA absorbs maximum UV light at the wavelength of
 (a) 200 nm (b) 260 nm (c) 300 nm (d) 340 nm
40. Which of the blood cells is collected as sample in DNA fingerprinting?
 (a) RBCs (b) Platelets (c) Both a and b (d) WBCs
41. How many phosphodiester bonds are present in plasmid having 1000 base pairs?
 (a) 500 (b) 1998 (c) 250 (d) 1000
42. During sewage treatment, flocs are masses of bacteria and fungi which are
 (a) Anaerobic and heterotrophic (b) Anaerobic and autotrophic
 (c) Aerobic and heterotrophic (d) Aerobic and autotrophic
43. The conversion of milk into curd improves its iinutritional value by increasing the amount of
 (a) Vitamin-A (b) Vitamin-B1 (c) Vitamin-B12 (d) Vitamin-D
44. Gentamicin is isolated from a bacterium which is
 (a) *Streptomyces griseus* (b) *Bacillus subtilis*
 (c) *Nocardia mediterranei* (d) *Micromonospora purpurea*

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45. The introduction of rDNA in host cell is known as
(a) Transduction (b) Transformation (c) Conjugation (d) Transfection
46. Which of the following restriction enzymes forms sticky ends?
(a) *Hin* d II (b) *Hae* III (c) *Alu* I (d) *Eco* RI
47. GEAC stands for
(a) Genetic Engineering Assessment Committee
(b) Genetic Engineering Approval Committee
(c) Genetic Engineering Action Committee
(d) Genetic Engineering Adhoc Committee
48. Which of the following organisms shows partial regulate?
(a) All plants (b) A few animals (c) Zooplanktons (d) Cray fish
49. In case of altitude sickness, the body compensates low availability of oxygen by
(a) Increasing the production of RBCs (b) Decreasing the binding capacity of Hb
(c) Increasing the rate of breathing (d) All of the above
50. Which of the age pyramids shows the less number of post reproductive individuals?
(a) Triangular (b) Bell-shaped (c) Urn shaped (d) Rectangular
51. Pyramid of number is spindle shaped in
(a) Grassland ecosystem (b) Pond ecosystem
(c) Parasitic food chain (d) Tree ecosystem
52. In hydroseric succession, the climax tree in temperate regions is
(a) Coniferous forest (b) Dry deciduous forest
(c) Moist deciduous forest (d) Rain forest
53. Which of the following is second richest in biodiversity?
(a) Western ghat (b) North East (c) Himalayas (d) Gangetic plain
54. Which of the following pollutants is both carcinogen and mutagen?
(a) Carbon monoxide (b) Ozone (c) Sulphur dioxide (d) Nitrogen oxides
55. Electrostatic precipitator removes
(a) Ozone (b) Particulate matter (c) Sulphur dioxide (d) Nitrogen oxides

Mock Test Paper 4

- Which of the following is used as quick reference for alpha taxonomic studies and research?
(a) Herbarium (b) Museum
(c) Botanical garden (d) Both herbarium and museum
- A bacterial cell divides every two minutes and it takes 20 minutes to fill one fourth of cup. How much time will it take to fill the cup?
(a) 20 minutes (b) 22 minutes (c) 24 minutes (d) 40 minutes
- Nitrobacter* takes energy for chemosynthesis from
(a) Ammonia (b) Nitrate (c) Nitrite (d) Protein
- The genetic material in viroid is
(a) ss RNA (b) ds RNA (c) ss DNA (d) ds DNA
- The pyrenoid is absent in
(a) Green algae (b) Brown algae (c) Red algae (d) Both b and c
- Heterospory in pteridophytes is not seen in
(a) *Lycopodium* (b) *Selaginella* (c) *Azolla* (d) *Marsilea*
- Racemose inflorescence is not characterised by
(a) Indefinite growth of axis (b) Centripetal opening of flowers
(c) Younger flowers are at base (d) It does not end in terminal flowers
- Which of the following terms is associated with adhesion of stamens?
(a) Syngenesius (d) Polyandrous (c) Synandrous (d) Epipetalous
- Schizo-lysigenous cavity is found in
(a) Monocot root (b) Dicot root (c) Monocot stem (d) Dicot stem
- During secondary growth in dicot stem the youngest layer of secondary phloem is situated
(a) Inside vascular cambium
(b) Outside vascular cambium
(c) Inside the oldest layer of secondary xylem
(d) Outside the oldest layer of secondary phloem
- Which of the following cells is routinely used to understand the structure of plasma membrane?
(a) RBC (b) Stem cells (c) Neuron (d) Myelin cell
- Nuclear spindle is made up of
(a) One fibre (b) Two fibres (c) Three fibres (d) Thirteen fibres

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13. The smallest functional unit of chloroplast is
(a) Thylakoid (b) Stroma (c) Quantasome (d) Granum
14. How many SAT chromosomes exist in somatic cell of human beings?
(a) 5 (b) 8 (c) 10 (d) 12
15. Cell cycle was discovered by Howard and Pelc in
(a) Broad bean (b) Kidney bean (c) Soya bean (d) Hyacinth bean
16. Single equatorial plate is formed at
(a) Metaphase I (b) Metaphase II (c) Anaphase I (d) Anaphase II
17. If there are 20 bivalents then how many chromatids are found?
(a) 10 (b) 20 (c) 40 (d) 80
18. Which of the following is odd with respect to facilitated diffusion?
(a) It is passive process (b) It does not require energy
(c) It is very specific (d) It is not sensitive to inhibitors
19. Tonoplast of vacuole is an example of
(a) Impermeable (b) Permeable
(c) Semipermeable (d) Selectively permeable
20. Translocation of sugar is stimulated by
(a) Boron (b) Calcium (c) Molybdenum (d) Zinc
21. Which of the following minerals is involved in selective permeability of cell?
(a) Boron (b) Calcium (c) Molybdenum (d) Zinc
22. Which of the following bacteria performs nitrogen fixation by loose symbiotic method?
(a) *Azotobacter* (b) *Nocardia* (c) *Frankia* (d) *Azospirillum*
23. The cofactor /prosthetic group associated with oxidation-reduction reactions is
(a) NADH (b) Zn^{+2} (c) Pyridoxal phosphate (d) Coenzyme A
24. Which of the following is required for the functioning of the Calvin cycle?
(a) Light (b) Darkness (c) ATP alone (d) ATP and NADPH
25. Photorespiration does not depend on
(a) High temperature (b) Bright light (c) Low O_2 (d) Low CO_2
26. Which of the following reactions does not occur in glycolysis?
(a) Phosphorylation (b) Isomerisation (c) Dehydrogenation (d) Decarboxylation
27. Which of the following intermediates of Krebs cycle is involved in synthesis of chlorophyll?
(a) Citric acid (b) Succinyl coenzyme A
(c) Succinic acid (d) Malic acid
28. How many protons are required to be transported to produce ATP from one molecule of NADH_2 ?
(a) 1 pair (b) 2 pairs (c) 3 pairs (d) 4 pairs
29. In plants, indole acetic acid causes cell elongation due to
(a) Increase in pH of apoplast (b) Increase in pH of cytoplasm
(c) Decrease in pH of apoplast (d) Decrease in pH of cytoplasm

30. When critical dark period is broken by giving light flashes?
 - (a) A flash of red light can induce flowering in SDPs
 - (b) A flash of far red light followed by a flash of red light will induce flowering in SDPs
 - (c) A flash of far red light followed by a flash of red light will induce flowering in LDPs
 - (d) A flash of red light followed by a flash of far red light will induce flowering in LDPs
31. Grafting is not possible in
 - (a) Apple
 - (b) Mango
 - (c) Lemon
 - (d) Banana
32. Pollination is not required in
 - (a) Gymnosperms
 - (b) Angiosperms
 - (c) Pteridophytes
 - (d) Phanerogams
33. Which is most common dehiscence of anther?
 - (a) Transverse
 - (b) Porous
 - (c) Valvular
 - (d) Longitudinal
34. How many male gametes are formed from 2 germ cells?
 - (a) Two
 - (b) Four
 - (c) Six
 - (d) Eight
35. Obturator during fertilisation is formed from
 - (a) Micropyle
 - (b) Nucellus
 - (c) Funicle
 - (d) Style of ovary
36. During development of monocot embryo, the first division of terminal cell is
 - (a) Longitudinal
 - (b) Irregular
 - (c) Oblique
 - (d) Transverse
37. The term 'gene' was coined by
 - (a) Mendel
 - (b) Bateson
 - (c) Correns
 - (d) Johanssen
38. Coat colour in mice is an example of
 - (a) Incomplete dominance
 - (b) Codominance
 - (c) Pleiotropy
 - (d) Epistasis
39. ZO type of sex determination occurs in
 - (a) Grass hopper
 - (b) Bug
 - (c) Fish
 - (d) Butterfly
40. Antler in male deer is an example of
 - (a) X-linked trait
 - (b) Y-linked trait
 - (c) Sex limited trait
 - (d) Sex influenced trait
41. Which of the following enzymes removes supercoiling in replication of DNA ahead of replication fork?
 - (a) Helicase
 - (b) Primase
 - (c) DNA polymerase
 - (d) Topoisomerase
42. Which of the following also acts as catalyst in a bacterial cell?
 - (a) 16 S rRNA
 - (b) 23 S rRNA
 - (c) 5 S rRNA
 - (d) All of the above
43. Which of the following amino acids is coded by maximum number of codons?
 - (a) Alanine
 - (b) Tryptophan
 - (c) Leucine
 - (d) Valine
44. In Lac operon, a mutation is created so that lactose cannot bind. Now if lactose is provided then what could happen?
 - (a) β galactosidase will be overexpressed
 - (b) Lac I repressor will remain inactivated
 - (c) Expression of lac operon will remain inactivated
 - (d) Lac I repressor unaffected that could remain bound to oeron preventing expression

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45. The speed of migration of a molecule in agarose gel electrophoresis depends on
(a) Charge alone (b) Charge and mass (c) Mass alone (d) None of these
46. Pusa lerma is variety of
(a) Wheat (b) Rice (c) Maize (d) Barley
47. Blood cholesterol is lowered by use of
(a) Cyclosporin (b) Statin
(c) Streptokinase (d) Glucose isomerise
48. Exponential growth does not involve
(a) Lag phase (b) Log phase (c) Stationary phase (d) All of the above
49. Single channel energy flow model was proposed by
(a) Lindemann (b) Odum (c) Charles Elton (d) R. Mishra
50. Pyramid of number in forest ecosystem is
(a) Upright (b) Inverted (c) Spindle shaped (d) T-shaped
51. Growth form showing k-selection is characterised by
(a) Large body size (b) Large in number
(c) Short life span (d) Early reproduction
52. Which of the following animals is extinct?
(a) Dodo (b) Quagga (c) Tylacine (d) All of the above
53. Nilgiri was the first biosphere reserve which did not include the region of
(a) Kerala (c) Karnataka (d) Tamil Nadu (d) Andhra Pradesh
54. Chernobyl atomic reactor was leaked in
(a) 1986 (b) 1988 (c) 1990 (d) 1992
55. Bharat stage VI will be applicable from
(a) 2021 (b) 2022 (c) 2023 (d) 2024

Mock Test Paper 5

- Which of the following sets show different taxons at different categories?
(a) Plants, Dicots, Mammals (b) Polemoniales, Primata, Mammals
(c) Angiospermae, Chordata, Primata (d) *Solanum*, Hominoidea, Dicotyledonae
- Which of the following dinoflagellates is bioluminescent?
(a) *Gymnodinium* (b) *Gonyaulax* (c) *Noctiluca* (d) All of the above
- Gametangial contact leads to the formation of
(a) Zygospore (b) Chlamydospore (c) Zoospore (d) Oospore
- Which of the following is odd with respect to mosses?
(a) Absence of elaters (b) Presence of columella
(c) Absence of gemmae (d) Presence of scales
- The coralloid root of *Cycas* shows symbiotic association with
(a) *Azolla* (b) *Aulosira* (c) *Nostoc* (d) *Anabaena*
- Which of the algae shows isogamy, anisogamy and oogamy?
(a) *Volvox* (b) *Chlamydomonas* (c) *Fucus* (d) *Polysiphonia*
- Cruciform corolla is characteristic feature of
(a) *Ficus* (b) *Solanum* (c) *Salvia* (d) *Brassica*
- Multicarpellary and syncarpous ovary are found in
(a) *Ficus* (b) *Magnolia* (c) *Ranunculus* (d) *Papaver*
- Undifferentiated mesophyll cells occur in
(a) Leaf of *Ficus* (b) Leaf of *Solanum* (c) Leaf of *Salvia* (d) Leaf of *Smilax*
- Medullary rays are well developed in
(a) Monocot root (b) Dicot root (c) Monocot stem (d) Dicot stem
- Acrosome of sperm is formed by
(a) Endoplasmic reticulum (b) Mitochondria
(c) Golgi apparatus (d) Lysosome
- The part of chromosome which does not take stain is
(a) Centromere (b) Chromomere (c) Chromatin (d) Chromatid
- The ratio of rRNA and protein in prokaryotic ribosome is
(a) 1:1 (b) 1:2 (c) 2:1 (d) 3:2
- If there are 20 centromeres in a cell of anaphase then how many chromosomes are there in each daughter cell after cytokinesis?
(a) 10 (b) 20 (c) 40 (d) 80

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15. Cells in G_0 phase
 - (a) Cannot re-enter the cell cycle
 - (b) Can remain in that state for life time
 - (c) Have entered from G_1 or G_2 check points
 - (d) Do not divide in spite of favourable condition
16. Lampbrush chromosome lasts for several months in
 - (a) Leptotene
 - (b) Zygotene
 - (c) Pachytene
 - (d) Diplotene
17. Cobalt chloride paper method is used to compare the
 - (a) Rate of absorption of water
 - (b) Rate of transpiration
 - (c) Rate of guttation
 - (d) Rate of osmosis
18. Which is the most common direction of translocation of solutes
 - (a) Downward
 - (b) Upward
 - (c) Radial
 - (d) Non-direction
19. Which of the elements is not immobile?
 - (a) Calcium
 - (b) Sulphur
 - (c) Iron
 - (d) Potassium
20. Which of the following bacteria is involved in denitrification?
 - (a) *Pseudomonas*
 - (b) *E.coli*
 - (c) *Nitrobacter*
 - (d) *Nitrococcus*
21. Assimilatory power does not include
 - (a) ATP
 - (b) $NADH_2$
 - (c) $NADPH_2$
 - (d) All of the above
22. Which of the following pigment system is absent in bacteria?
 - (a) PS I
 - (b) PS II
 - (c) Both
 - (d) None
23. How many additional ATPs are required to fix one molecule of carbon dioxide in C_4 plants?
 - (a) 1
 - (b) 2
 - (c) 3
 - (d) 4
24. How many ATPs are produced from $FADH_2$ in one cycle of Krebs cycle?
 - (a) 1
 - (b) 2
 - (c) 3
 - (d) 4
25. ATP synthase can bind to all of the following ions except
 - (a) NADH
 - (b) ATP
 - (c) ADP
 - (d) $3H^+$
26. Cyanides act on
 - (a) Complex II
 - (b) Complex III
 - (c) Complex IV
 - (d) Complex V
27. Synthesis of ethylene is induced by due to high concentration of
 - (a) Auxin
 - (b) Gibberellin
 - (c) Cytokinin
 - (d) ABA
28. Which of the following plant hormones is weak base?
 - (a) Auxin
 - (b) Gibberellin
 - (c) Cytokinin
 - (d) ABA
29. Photoperiodism was discovered in
 - (a) Tobacco
 - (b) Potato
 - (c) Tomato
 - (d) Maize
30. Which of the following plant is monocarpic?
 - (a) Radish
 - (b) Carrot
 - (c) *Agave*
 - (d) All of the above
31. Pollen viability is longest in
 - (a) *Typha*
 - (b) *Cuscuta*
 - (c) *Mirabilis*
 - (d) *Calotropis*

32. Pseudocopulation was observed in
 (a) *Ophrys* (b) *Salvia* (c) *Ficus* (d) *Ocimum*
33. The ploidy level of endosperm in gymnosperms is
 (a) Haploid (b) Diploid (c) Triploid (d) Tetraploid
34. If a normal male plant is crossed with tetraploid female plant then how many nuclei are involved in triple fusion?
 (a) Three (b) Four (c) Five (d) Six
35. The greatest distance among three genes is between a and c. It means that
 (a) Gene a is close to b (b) Genes are in the order: a-b-c
 (c) Gene a is not recombining with c (d) Gene a is between b and c
36. The genotypes of a husband and wife are $I^A I^A \times I^A I^O$. How many genotypes and phenotypes are possible among the blood types of their children?
 (a) 2 genotypes and 2 phenotypes (b) 2 genotypes and 1 phenotype
 (c) 1 genotype and 2 phenotypes (d) 3 genotypes and 2 phenotypes
37. What proportion of offspring of a male carrying an X-linked dominant trait will be affected?
 (a) All sons and no daughters (b) All daughters and no sons
 (c) 50% sons and 50% daughters (d) All sons and daughters
38. In non universal genetic code, UGA codes for
 (a) Phenylalanine (b) Methionine (c) Tryptophan (d) Glycine
39. Human genome project involved the construction of genomic library in
 (a) Plasmid (b) Cosmid (c) Bacteriophage (d) BAC
40. RNA polymerase was discovered by
 (a) Kornberg (b) Severo Ochoa (c) Okazaki (d) Khorana
41. Messelson and Stahl proved semiconservative replication of DNA in
 (a) *E. coli* (b) *Salmonella* (c) *Agrobacterium* (d) *Streptococcus*
42. The organellar DNA is
 (a) Linear (b) Circular (c) Zig-zag (d) Random
43. Which of the following restriction endonuclease enzymes does not require ATP?
 (a) Type I (b) Type II (c) Type III (d) All of the above
44. The most preferred choice for the development of hybrid plants from a male sterile line would be
 (a) Ovary culture (b) Pollen culture (c) Anther culture (d) Meristem culture
45. Pomato is a plant produced by
 (a) Organ culture (b) Transgenic method (c) Plant breeding (d) Protoplast fusion
46. If you want to use a plant tissue culture as a chemical factory for producing vitamins then you will choose
 (a) Callus culture (b) Suspension culture (c) Organ culture (d) Anther culture
47. Which of the following microbes can be effectively used as a biocontrol agent?
 (a) *Pseudomonas putida* (b) *Bacillus megatherium*
 (c) *Bacillus thuringiensis* (d) *Agrobacterium tumefaciens*

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48. A blue whale stranded on a beach will suffocate because
(a) It will not be able to contract diaphragm (b) It will get air bubble in its blood stream
(c) It needs water to breathe (d) All of the above
49. The members of same plant species but adapted to different ecological conditions are called
(a) Ecophene (b) Ecotone (c) Ecospecies (d) Ecotype
50. Which of the following groups is most threatened by global extinction?
(a) Amphibians (b) Fish (b) Birds (d) Mammals
51. Which of the following is not an example of terrestrial ecosystem?
(a) Volcano site (b) Rotten log (c) Garden plot (d) Human skin
52. Aquatic ecosystems are least likely to be limited by
(a) Nitrogen (b) Phosphorus (c) Carbon (d) Calcium
53. Which of the following is characteristic of a climax community?
(a) Low species diversity (b) Wide niche
(c) High community production (d) Open mineral cycling
54. The average value of dissolved oxygen (DO) concentration in water is
(a) 1 mg/l (b) 10 mg/l (c) 100 mg/l (d) 160 mg/l
55. Which of the following industrial wastes causes biomagnifications?
(a) Hg (b) Cu (c) Pb (d) Cd

ANSWERS**MOCK TEST PAPER – 1**

1. (a)	2. (a)	3. (d)	4. (b)	5. (a)	6. (b)	7. (c)	8. (b)	9. (d)	10. (d)
11. (b)	12. (a)	13. (d)	14. (a)	15. (a)	16. (d)	17. (d)	18. (c)	19. (a)	20. (d)
21. (d)	22. (a)	23. (b)	24. (c)	25. (a)	26. (c)	27. (d)	28. (a)	29. (a)	30. (c)
31. (d)	32. (a)	33. (b)	34. (d)	35. (d)	36. (c)	37. (a)	38. (d)	39. (a)	40. (c)
41. (d)	42. (d)	43. (c)	44. (c)	45. (a)	46. (c)	47. (d)	48. (a)	49. (d)	50. (b)
51. (c)	52. (c)	53. (c)	54. (a)	55. (b)					

MOCK TEST PAPER – 2

1. (c)	2. (a)	3. (a)	4. (d)	5. (c)	6. (d)	7. (d)	8. (b)	9. (c)	10. (a)
11. (c)	12. (b)	13. (d)	14. (a)	15. (c)	16. (c)	17. (c)	18. (a)	19. (c)	20. (c)
21. (a)	22. (b)	23. (b)	24. (b)	25. (a)	26. (d)	27. (a)	28. (c)	29. (b)	30. (a)
31. (d)	32. (b)	33. (d)	34. (a)	35. (c)	36. (a)	37. (b)	38. (d)	39. (a)	40. (d)
41. (d)	42. (a)	43. (b)	44. (c)	45. (b)	46. (d)	47. (d)	48. (c)	49. (a)	50. (d)
51. (b)	52. (a)	53. (d)	54. (a)	55. (c)					

MOCK TEST PAPER – 3

1. (a)	2. (b)	3. (d)	4. (a)	5. (c)	6. (b)	7. (d)	8. (b)	9. (c)	10. (d)
11. (c)	12. (b)	13. (a)	14. (a)	15. (c)	16. (c)	17. (d)	18. (d)	19. (b)	20. (c)
21. (b)	22. (a)	23. (b)	24. (c)	25. (d)	26. (a)	27. (a)	28. (b)	29. (c)	30. (d)
31. (b)	32. (c)	33. (d)	34. (a)	35. (b)	36. (a)	37. (a)	38. (d)	39. (b)	40. (d)
41. (b)	42. (c)	43. (c)	44. (d)	45. (b)	46. (d)	47. (b)	48. (d)	49. (d)	50. (b)
51. (d)	52. (a)	53. (b)	54. (d)	55. (b)					

MOCK TEST PAPER – 4

1. (a)	2. (c)	3. (c)	4. (a)	5. (c)	6. (a)	7. (c)	8. (d)	9. (c)	10. (b)
11. (a)	12. (c)	13. (c)	14. (c)	15. (a)	16. (b)	17. (d)	18. (b)	19. (d)	20. (a)
21. (b)	22. (d)	23. (a)	24. (d)	25. (c)	26. (d)	27. (b)	28. (c)	29. (c)	30. (c)
31. (d)	32. (c)	33. (d)	34. (d)	35. (c)	36. (d)	37. (d)	38. (b)	39. (d)	40. (c)
41. (d)	42. (b)	43. (c)	44. (d)	45. (b)	46. (a)	47. (b)	48. (c)	49. (a)	50. (c)
51. (a)	52. (d)	53. (d)	54. (a)	55. (c)					

MOCK TEST PAPER – 5

1. (d)	2. (c)	3. (d)	4. (d)	5. (c)	6. (b)	7. (d)	8. (d)	9. (d)	10. (b)
11. (c)	12. (a)	13. (c)	14. (b)	15. (b)	16. (d)	17. (b)	18. (a)	19. (d)	20. (a)
21. (b)	22. (b)	23. (b)	24. (b)	25. (a)	26. (c)	27. (a)	28. (c)	29. (a)	30. (d)
31. (a)	32. (a)	33. (a)	34. (c)	35. (d)	36. (b)	37. (a)	38. (c)	39. (d)	40. (b)
41. (a)	42. (b)	43. (b)	44. (a)	45. (d)	46. (b)	47. (c)	48. (a)	49. (d)	50. (a)
51. (d)	52. (a)	53. (c)	54. (b)	55. (a)					