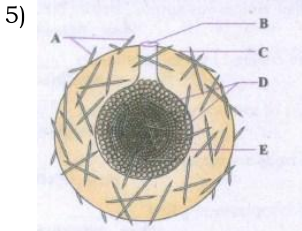


Volume 1 - One Mark Questions with Answer Key

12th Standard

Biology

- In which type of parthenogenesis are only males produced?
(a) Arrhenotoky (b) Thelytoky (c) Amphitoky (d) Both a and b
- In which mode of reproduction variations are seen
(a) Asexual (b) Parthenogenesis (c) Sexual (d) Both a and b
- This is the sexual union of young individuals produced immediately after the division of the adult parent cell by mitosis.
(a) Paedogamy (b) Hologamy (c) Merogamy (d) Anisogamy
- Paedogenetic parthenogenesis is seen in ____
(a) planula larvae of enidarians (b) Cydippid larvae of pleurobranchia (c) Redia larvae of oliver fluke (d) Trochophore larvae of Annelids



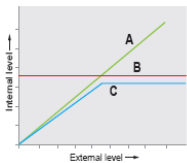
Identify the correct option to label the diagram

- 1 - Archaeocytes
2 - Inner membrane
3 - Micropyle
4 - Outer membrane
5 - Monaxonspicules
(a) 1-A 2-D 3-B 4-C 5-E (b) 1-C 2-B 3-A 4-E 5-D (c) 1-D 2-E 3-B 4-C 5-A (d) 1-A 2-E 3-D 4-B 5-C
- 6) Which of the following types of asexual reproduction is noticed in Amoeba?
(a) Sporulation (b) Encystment (c) Binary fission (d) All the above
- 7) The male sex hormone testosterone is secreted from
(a) Sertoli cells (b) Leydig cell (c) Epididymis (d) Prostate gland
- 8) The foetal membrane that forms the basis of the umbilical cord is
(a) Allantois (b) Amnion (c) Chorion (d) Yolk sac
- 9) ____ is popularly known as sperm lysin.
(a) Inhibitin (b) Hyaluronidase (c) Androgen (d) Acrosome
- 10) ____ is not linked to polymenorrhoea
(a) Shorter cycle (b) Gland activity (c) Malnutrition (d) Pain
- 11) Expulsion of baby from the mother's womb is called ____
(a) implementation (b) parturition (c) insemination (d) gestation
- 12) Which of the following is correct regarding HIV, hepatitis B, gonorrhoea and trichomoniasis?
(a) Gonorrhoea is a STD whereas others are not. (b) Trichomoniasis is a viral disease whereas others are bacterial. (c) HIV is a pathogen whereas others are diseases. (d) Hepatitis B is eradicated completely whereas others are not.
- 13) Which one of the following groups includes sexually transmitted diseases caused by bacteria only?
(a) Syphilis, gonorrhoea and candidiasis (b) Syphilis, chlamydia and gonorrhoea (c) Syphilis, gonorrhoea and trichomoniasis (d) Syphilis, trichomoniasis and pediculosis
- 14) Select the incorrect action of hormonal contraceptive pills from the following
(a) Inhibition of spermatogenesis. (b) Inhibition of ovulation. (c) Changes in cervical mucus impairing its ability to allow passage and transport of sperm. (d) Alteration in uterine endometrium to make it unsuitable for implantation.
- 15) ____ is a condition in which there is absence of spermatozoa in the ejaculate serum
(a) teratozoospermia (b) Asthenozoospermia (c) Oligozoospermia (d) Azoospermia
- 16) Which of the following is Not a natural contraceptive?

- (a) Rhythm method (b) Lactational amenorrhoea (c) Progestasert (d) Continuous abstinence
- 17) ABO blood group in man is controlled by
(a) Multiple alleles (b) Lethal genes (c) Sex linked genes (d) Y-linked genes
- 18) Which of the following is not correct?
(a) Three or more alleles of a trait in the population are called multiple alleles (b) A normal gene undergoes mutations to form many alleles (c) Multiple alleles map at different loci of a chromosome (d) A diploid organism has only two alleles out of many in the population
- 19) If the child's blood group is 'O' and father's blood group is 'A' and mother's blood group is 'B' the genotype of the parents will be
(a) $I^A I^A$ and $I^B I^O$ (b) $I^A I^O$ and $I^B I^O$ (c) $I^A I^O$ and $I^O I^O$ (d) $I^O I^O$ and $I^B I^B$
- 20) _____ was first reported by John Cotto.
(a) Erythroblastosis foetalis (b) Haemophilia (c) Colour blindness (d) Haplodiploidy
- 21) Depending on position of centromere and relative length of two arms human chromosomes can be classified into _____ type.
(a) 2 (b) 3 (c) 4 (d) 5
- 22) I^A and I^B genes of ABO blood group are _____
(a) Co-dominant (b) Pleiotropic (c) Dominant and recessive (d) Epistatic
- 23) Hershey and Chase experiment with bacteriophage showed that
(a) Protein gets into the bacterial cells (b) DNA is the genetic material (c) DNA contains radioactive sulphur (d) Viruses undergo transformation
- 24) Which of the following statements about DNA replication is not correct?
(a) Unwinding of DNA molecule occurs as hydrogen bonds break. (b) Replication occurs as another base is paired with it (c) Process is known as semi conservative replication because one old strand is conserved in the new molecule. (d) Complementary base pairs are held together with hydrogen bonds
- 25) One difference between deoxyribose and Ribose is due to _____.
(a) One Oxygen atom more in Ribose (b) Two Oxygen atoms in Ribose (c) Two Carbon atoms less in Ribose (d) Four Carbon atoms more in Ribose
- 26) Identify the proper sequence in the organization of eukaryotic chromosome.
(a) Nucleosome - Solenoid - Chromatid (b) Chromatid - Nucleosome - Solenoid (c) Solenoid - DNA solenoid - genophore (d) Nucleosome - Solenoid chromatin - DNA solenoid - genophore
- 27) How many structural genes are located in lac operon of E.Coli?
(a) 4 (b) 3 (c) 2 (d) 1
- 28) Evolutionary history of an organism is called
(a) ancestry (b) ontogeny (c) phylogeny (d) paleontology
- 29) Which period was called "Age of fishes"?
(a) Permian (b) Triassic (c) Devonian (d) Ordovician
- 30) Modern man belongs to which period?
(a) Quaternary (b) Cretaceous (c) Silurian (d) Cambrian
- 31) According to Neo Darwinism change in the frequency of genes in population arise due to all. Except.
(a) Natural selection (b) Mutation (c) Struggle for existence (d) Variation
- 32) Who believed that gradual accumulation of all variations are the causative factor in the origin of new species
(a) Sewell Wright (b) Lamarck and Darwin (c) Huxley (d) Simpson and Haeckel
- 33) Exo-erythrocytic schizogony of Plasmodium takes place in _____.
(a) RBC (b) Leucocytes (c) Stomach (d) Liver
- 34) Cirrhosis of liver is caused by chronic intake of _____.
(a) Opium (b) Alcohol (c) Tobacco (d) Cocaine
- 35) Allergy involves
(a) IgE (b) IgG (c) IgA (d) IgM
- 36) _____ is a carrier for transmitting entamoeba
(a) House fly (b) Mosquito (c) Sand fly (d) Tsetse fly
- 37) _____ is a DNA virus
(a) Rubella (b) Varicella (c) Polio (d) Mumps
- 38) Assertion (A): Dermatomycosis is a cutaneous infection.
Reason (R): Fungus belongs to the order Trichophyton.
(a) Both (A) and (R) are true. (b) (A) is true (R) (c) Both (A) and (R) (d) (A) is false (R)

(R) explains (A) is false are false is true

- 39) The enzyme attached to RNA of HIV is _____
 (a) RNA polymerase (b) reverse transcriptase (c) primase (d) endonuclease
- 40) Which of the following pair is correctly
 (a) Acetobacter (b) (c) Penicillium (d) Saccharomyces
 acetii - Antibiotics Methanobacterium - notatum - Acetic acid cerevisiae - Ethanol
 Lactic acid
- 41) Which of the following bacteria is used extensively as a bio-pesticide?
 (a) Bacillus thurigiensis (b) Bacillus subtilis (c) Lactobacillus acidophilus (d) Streptococcus lactis
- 42) CO₂ is not released during
 (a) Alcoholic fermentation (b) Lactate fermentation (c) Aerobic respiration in animals (d) Aerobic respiration in plants
- 43) Genetically engineered _____ are used as clot buster in cardiac related issues
 (a) Staphylococcus (b) Yeast (c) Penicillium (d) Streptococci
- 44) _____ got from fungi is used as an immune suppressant in organ transplantation.
 (a) Statin (b) Cyclosporin A (c) Insulin (d) Protease
- 45) _____ is free living bacteria which acts as a biofertilizer.
 (a) Azospirillum (b) Nostoc (c) Oscillatoria (d) Glomus
- 46) ELISA is mainly used for
 (a) Detection of mutations (b) Detection of pathogens (c) Selecting animals having desired traits (d) Selecting plants having desired traits
- 47) Recombinant Factor VIII is produced in the _____ cells of the Chinese Hamster
 (a) Liver cells (b) blood cells (c) ovarian cells (d) brain cells.
- 48) Most popular sources of stem cells from their bank
 (a) amniotic cell bank (b) cord blood bank (c) placenta blood bank (d) amniotic fluid cell bank
- 49) _____ among the following will not serve as store house of stem cell.
 (a) Blood (b) Bone marrow (c) Amniotic fluid (d) Placenta
- 50) There is a restriction endonuclease called EcoRI. What does 'co' part in it stand for?
 (a) Coelom (b) Coenzyme (c) Coli (d) Colon
- 51) Identify the correct statement(s).
 (i) Totipotency is the ability of single cell to produce a whole organism.
 (ii) Pluripotency refers to ability of stem cell with apotential to differentiate into any kind of germ layers.
 (iii) Unipotency refers to ability of stem cell to differentiate into one cell type.
 (iv) Oligopotency refers to stem cells to differentiate into few cell types.
 (a) i and iii (b) ii and iv (c) i and iv (d) all the above
- 52) Predation and parasitism are which type of interactions?
 (a) (+,+) (b) (+, O) (c) (--, --) (d) (+, --)
- 53) Competition between species leads to
 (a) Extinction (b) Mutation (c) Amensalism (d) Symbiosis
- 54) The figure given below is a diagrammatic representation of response of organisms to abiotic factors. What do A, B and C represent respectively.



(a)			(b)			(c)			(d)		
A	B	C	A	B	C	A	B	C	A	B	C
Conformer	Regulator	Partial Regulator	Regulator	Partial Regulator	Conformer	Partial Regulator	Regulator	Conformer	Regulator	Conformer	Partial Regulator

- 55) The relationship between sucker fish and shark is _____
 (a) Competition (b) Commensalism (c) Predation (d) Parasitism.
- 56) Which of the following is correct for r-selected species
 (a) Large number of progeny with small size (b) large number of progeny with large size (c) small number of progeny with small size (d) small number of progeny with large size
- 57) Study the four statements (1 to 4) given below and select the two correct ones out of them.

- 1) A lion eating a deer and a sparrow feeding on grain are ecologically similar in being consumers.
- 2) Predator starfish *Pisaster* helps in maintaining species diversity of some invertebrates.
- 3) Predators ultimately lead to the extinction of prey species.
- 4) Production of chemicals such as nicotine, strychnine by the plants is disordered.
- The two correct statements are
- (a) (2) and (3) (b) (3) and (4) (c) (1) and (4) (d) (1) and (2)
- 58) Locomotory speed of an organism changes due to light. This phenomenon is referred as _____
- (a) Photonasty (b) Photokinesis (c) Phototropism (d) Phototaxis
- 59) Identify the incorrect statement
- (a) Water is a universal solvent (b) Water has less surface tension (c) Water is heavier than air (d) When freezes water contracts
- 60) Assertion (A): Snake is a stenotherm.
Reason (R): Organism can tolerate narrow temperature fluctuations
- (a) Both A and R are correct R explain A (b) A is correct R is incorrect (c) R does not explain A (d) Both A and R are incorrect
- 61) Pick out the correct statement regarding K-selected species
- (a) Produce many offsprings (b) Only few reach adulthood (c) Unstable environment (d) Long life expectancy
- 62) Which one of the following is not coming under insitu conservation
- (a) Sanctuaries (b) Natural parks (c) Zoological park (d) Biosphere reserve
- 63) Which of the following is considered a hotspots of biodiversity in India
- (a) Western ghats (b) Indo-gangetic plain (c) Eastern Himalayas (d) A and C
- 64) The organization which published the red list of species is
- (a) WWF (b) IUCN (c) ZSI (d) UNEP
- 65) _____ is not a exotic species.
- (a) Amazon sailfin catfish (b) Mealy Bug (c) Narcondam horn bills (d) *Achatina fulica*
- 66) Death of _____ population is attributed to the medicine Diclofenac.
- (a) Sparrow (b) Squirrel (c) Vulture (d) deer
- 67) Which of the following denotion is correct regarding increasing diversity?
- (a) Poles < Equator (b) Equator < Pole (c) Pole = Equator (d) Latitude = Longitude
- 68) Tilapia fish (*Oreochromis mosambicus*) is exotic breed from _____
- (a) Mexico (b) South Africa (c) Canada (d) Central America
- 69) With which of the following, the Agenda 21' of Rio Summit, 1992 is related to?
- (a) Sustainable development of population (b) Combating the consequences (GHGs) emission (c) Mitigation norms of developing countries for 'clean-energy' production (d) Technology transfer mechanism to developing countries for 'clean-energy' production
- 70) The 'thickness' of Stratospheric Ozone layer is measured in/on:
- (a) Sieverts units (b) Dobson units (c) Melson units (d) Beaufort Scale
- 71) As per 2017 statistics, the highest per capita emitter of Carbon dioxide in the world is
- (a) USA (b) China (c) Qatar (d) Saudi Arabia
- 72) In the E- waste generated by the Mobile Phones, which among the following metal is most abundant?
- (a) Copper (b) Silver (c) Palladium (d) Gold
- 73) PCB is a major component of _____
- (a) e-waste (b) Agro waste (c) sewage (d) Plastics
- 74) _____ are the major causes of CO pollution in large cities and towns.
- (a) Fossil fuels (b) Ocean (c) Deforestation (d) Automobiles
- 75) According to noise pollution rules 2000, the permissible level of noise in commercial area is _____ during day and _____ during nitght
- (a) 55 db, 65 db (b) 65 db, 55 db (c) 70 db, 60 db (d) 75 db, 65 db
- 76) Which is not a method of disposal of radioactive waste.
- (a) Dilute and dispense (b) Delay and decay (c) Recycle and reuse (d) Limit generation
- 77) BOD stands for _____
- (a) Biological Oxidation Demand (b) Biotic Oxygen Deficient (c) Biological Oxygen Deficit (d) Biochemical Oxidation Deficit
- 78) Identify the correctly matched pair
- (a) Tuber - *Allium cepa* (b) Sucker - *Pistia* (c) Rhizome - *Musa* (d) Stolon - *Zingiber*

- 79) Size of pollen grain in Myosotis
 (a) 10 micrometer (b) 20 micrometer (c) 200 micrometer (d) 2000 micrometer
- 80) Match the following
 I) External fertilization i) pollen grain
 II) Androecium ii) anther wall
 III) Male gametophyte iii) algae
 IV) Primary parietal layer iv) stamens
 (a) I-iv; II-i; III-ii; IV-iii (b) I-iii; II-iv; III-i; IV-ii (c) I-iii; II-iv; III-ii, IV-i (d) I-iii; II-i; III-iv; IV-ii
- 81) A plant called X possesses small flower with reduced perianth and versatile anther. The probable agent for pollination would be
 (a) water (b) air (c) butterflies (d) beetles
- 82) Parthenocarpic fruits lack
 (a) Endocarp (b) Epicarp (c) Mesocarp (d) seed
- 83) Innermost layer of anther wall is _____
 (a) Endothecium (b) Endothecum (c) Endothelium (d) Tapetum
- 84) Select the wrong statement(s) regarding cross-pollination.
 (a) Pollination depends on external agent and so it is certain.
 (b) New varieties are produced.
 (c) Continuous cross-pollination leads to weaker progeny.
 (d) Germination capacity is highly declined.
 (a) a and d (b) b and c (c) a, b and d (d) a, c and d
- 85) Generally, the pollen grains are liberated from anther at _____
 (a) 2-celled stage (b) 4-celled stage (c) 6-celled stage (d) 8-celled stage
- 86) Identify the incorrect statement.
 (a) One seeded fruit of paddy is caryopsis.
 (b) Primitive root is called coleorhiza.
 (c) Scutellum is a part of mono cot seed.
 (d) Embryonic axis above the cotyledon is epicotyl.
- 87) Which of the following post fertilization change is incorrectly matched?
 (a) Secondary nucellus - Endosperms
 (b) Antipodals - Degenerates
 (c) Nucellus - Testa and tegma
 (d) Funicle - Seed stalk
- 88) In Mendel's experiments with garden pea, round seed shape (RR) was dominant over wrinkled seeds (rr), yellow cotyledon (YY) was dominant over green cotyledon (yy). What are the expected phenotypes in the F₂ generation of the cross R₂YY x r₂yy?
 (a) Only round seeds with green cotyledons
 (b) Only wrinkled seeds with yellow cotyledons
 (c) Only wrinkled seeds with green cotyledons
 (d) Round seeds with yellow seeds with green cotyledons and wrinkled seeds with yellow cotyledons
- 89) Select the correct statement from the ones given below with respect to dihybrid cross
 (a) Tightly linked genes on the same chromosome show very few combinations
 (b) Tightly linked genes on the same chromosome show higher combinations
 (c) Genes far apart on the same chromosome show very few recombinations
 (d) Genes loosely linked on the same chromosome show similar recombinations as the tightly linked ones
- 90) Fruit colour in squash is an example of
 (a) Recessive epistasis
 (b) Dominant epistasis
 (c) Complementary genes
 (d) Inhibitory genes
- 91) In a test cross involving F₁ dihybrid flies, more parental type offspring were produced than the recombination type offspring. This indicates
 (a) The two genes are located on two different chromosomes
 (b) Chromosomes failed to separate during meiosis
 (c) The two genes are linked and present on the same chromosome
 (d) Both of the characters are controlled by more than one gene
- 92) Which of the following explains how progeny can possess the combinations of traits that none of the parent possessed?
 (a) Law of segregation
 (b) Chromosome theory
 (c) Law of independent assortment
 (d) Polygenic inheritance
- 93) The dominant epistasis ratio is
 (a) 9:3:3:1 (b) 12:3:1 (c) 9:3:4 (d) 9:6:1
- 94) Which is not a correct statement?
 (A) Variations are the raw materials for evolution
 (B) Variations provide genetic material for natural selection

- (C) It helps the individual to adapt to the changing environment
 (D) Variations allow breeders to improve the crop field
 (a) A and D (b) B only (c) C and D (d) none of the above
- 95) Gregor Mendel _____
 (i) was born in Czechoslovakia
 (ii) did his experiments in *Pisum fulvum*
 (iii) was the first systemic researcher in genetics
 (iv) Published his results in the paper "Experiments on Plant Hybrids"
 (a) All are correct (b) (ii), (iii), (iv) are correct (c) (i), (iii), (iv) are correct (d) (i), (iii), (iv) are correct
- 96) Identify the wrong statement(s)
 (i) Monohybrid cross involves the inheritance of two alleles of a gene
 (ii) The dwarf traits reappeared in F₂
 (iii) Law of dominance was proved by monohybrid cross
 (iv) F₁ monohybrid was an heterozygous
 (a) i and ii (b) iii and iv (c) i only (d) none of the above
- 97) According to Mendel which character shown dominance
 (a) Yellow flower color (b) Yellow cotyledon color (c) Wrinkled seeds (d) Inflated pod
- 98) Factor hypothesis was proposed by _____
 (a) Reginald Punnett (b) W. Bateson (c) Gregor Mendel (d) Carl Correns
- 99) The 1 : 2 : 1 ratio of co-dominance process Mendel's _____
 (a) Law of dominance (b) Law of recessiveness (c) Law of segregation (d) Law of independent assortment
- 100) Genes G S L H are located on same chromosome. The recombination percentage is between L and G is 15%, S and L is 50%, H and S are 20%. The correct order of genes is
 (a) GHSL (b) SHGL (c) SGHL (d) HSLG
- 101) The point mutation sequence for transition, transition, transversion and transversion in DNA are
 (a) A to T, T to A, C to G and G to C (b) A to G, C to T, C to G and T to A (c) C to G, A to G, T to A and G to A (d) G to C, A to T, T to A and C to G
- 102) Assertion (A): Gamma rays are generally use to induce mutation in wheat varieties.
 Reason (R): Because they carry lower energy to non-ionize electrons from atom
 (a) A is correct. R is correct explanation of A (b) A is correct. R is not correct explanation of A (c) A is correct. R is wrong explanation of A (d) A and R is wrong
- 103) Name the scientist(s) who rediscovered the Mendelian work?
 (i) Hugo de Vries
 (ii) Carl Correns
 (iii) Tschermak
 (iv) T.H. Morgan
 (a) i and iv (b) i, ii and iv (c) i, ii and iii (d) ii, iii and iv
- 104) Pick out the co-mutagen from the following:
 (a) Eosin (b) Mustard gas (c) Ascorbic acid (d) Nitrous acid
- 105) Which one of the following ploidy is irrelevant to others?
 (a) Monosomy (b) Trisomy (c) Tetrasomy (d) Pentasomy
- 106) Consider the following statements:
 I. Recombinant DNA technology is popularly known as genetic engineering is a stream of biotechnology which deals with the manipulation of genetic materials by man invitro
 II. pBR322 is the first artificial cloning vector developed in 1977 by Boliver and Rodriguez from *E.coli* plasmid
 III. Restriction enzymes belongs to a classof enzymes called nucleases.
 C choose the correct option regarding above statements
 (a) I & II (b) I & III (c) II & III (d) I,II & III
- 107)

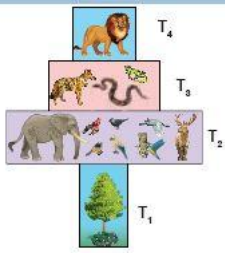
Column A	Column B
1 Exonuclease	a. add or remove phosphate
2 Endonuclease	b. binding the DNA fragments
3 Alkaline Phosphatase	c. cut the DNA at terminus
4 Ligase	d. cut the DNA at middle

 (a) A) a b c d (b) B) c d b a (c) C) a c b d (d) D) c d a b
- 108) Which one of the following is not correct statement

- (a) Ti plasmid causes the bumpy top disease (b) Multiple cloning site known as Polylinker (c) Non viral method of transfection of Nucleic acid in cell (d) Polylactic acid is a kind of biodegradable and bioactive thermoplastic.
- 109) Cohesive ends are _____
 (a) Blunt ends (b) Flush ends (c) Sticky ends (d) Symmetric cuts
- 110) Statement 1: Liposomes are the artificial lipoprotein vesicles.
 Statement 2: Liposomes are highly used in gene transfer.
 (a) Statement 1 is correct and Statement 2 is also correct. (b) Statement 1 is correct and Statement 2 is incorrect. (c) Both the statements are incorrect. (d) Statement 1 is incorrect and Statement 2 is correct
- 111) Assertion (A): DMH -11 is a transgenic mustard.
 Reason (R): It is developed by using bamase/ barstar technology.
 (a) Both A and R are wrong. (b) A is right R is wrong. (c) R explains A. (d) A and R are right, R does not explain A.
- 112) The time duration for sterilization process by using autoclave is _____ minutes and the temperature is _____
 (a) 10 to 30 minutes and 125° C (b) 15 to 30 minutes and 121° C (c) 15 to 20 minutes and 125° C (d) 10 to 20 minutes and 121° C
- 113) Virus free plants are developed from
 (a) Organ culture (b) Meristem culture (c) Protoplast culture (d) Cell suspension culture
- 114) Cryopreservation means it is a process to preserve plant cells, tissues or organs
 (a) at very low temperature by using ether. (b) at very high temperature by using liquid nitrogen (c) at very low temperature of -196 by using liquid nitrogen (d) at very low temperature by using liquid nitrogen
- 115) The production of secondary metabolites require the use of _____.
 (a) Protoplast culture (b) Organ culture (c) Cell suspension culture (d) Virus free germ culture
- 116) Identify the wrong statement:
 (a) Artificial seeds are stored for long time under cryopreservation (b) Somatic embryos are used for artificial seed production (c) Period of dormancy of artificial seeds is greatly reduced (d) Encapsulation of embryoids is done using cryoprotectant
- 117) Identify the incorrect statement:
 (a) Explants are surface sterilized (b) Nutrient media are autoclaved (c) Culture rooms are UV radiated for 15 minutes (d) Glasswares and accessories are autoclaved
 (a) a only (b) b and c (c) d only (d) none of the above
- 118) The phenomenon of reversion of mature cells to meristematic state leading to callus formation is _____
 (a) Redifferentiation (b) Dedifferentiation (c) either (a) or (b) (d) none of these
- 119) Which of the given plant produces cardiac glycosides?
 (a) Calotropis (b) Acacia (c) Nepenthes (d) Utricularia
- 120) In a fresh water environment like pond, rooted autotrophs are
 (a) Nymphaea and typha (b) Ceratophyllum and Utricularia (c) Wolffia and pistia (d) Azolla and lemna
- 121) Statement 1: Latitudes represent distance from the equator.
 Statement 2: Height above the seal level from longitude.
 (a) Statement 1 is correct. Statement 2 is incorrect (b) Statement 1 is incorrect. Statement 2 is correct (c) Both the statements are correct. (d) Both the statements are incorrect
- 122) Utricularia is a _____.
 (a) Rooted floating hydrophyte (b) Submerged floating hydrophyte (c) Rooted submerged hydrophyte (d) Amphibious hydrophyte
- 123) Earth day is observed on
 (a) April 22nd (b) March 21st (c) July 07th (d) September 16th
- 124) Which of the following is / are not a natural ecosystem?
 (a) Forest ecosystem (b) Rice field (c) Grassland ecosystem (d) Desert ecosystem
- 125) Ecosystem consists of

- (a) decomposers (b) producers (c) consumers (d) all of the above

126) The following diagram represents

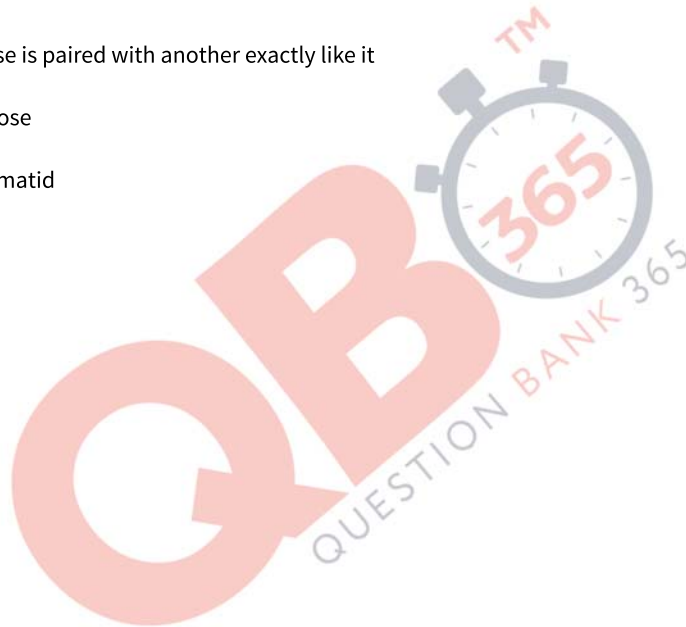


- (a) pyramid of number in a grassland ecosystem (b) pyramid of number in a grassland ecosystem (c) pyramid of number in a pond ecosystem (d) pyramid of biomass in a pond ecosystem
- 127) Identify the incorrect option among the following component sequence.
 (a) air, water, sunlight and temperature (b) latitude, altitude, and aptitude (c) soil air, pH of soil, saltwater and soil moisture (d) carbohydrate, protein, lipids and humic substances
- 128) If 1200 Joules of solar energy is trapped by producers, how much of Joules of energy does the organism in the third trophic level will receive?
 (a) 120 Joules (b) 12 Joules (c) 1.2 Joules (d) 0.12 Joules
- 129) Assertion (A): In forest ecosystem, the pyramid of number is spindle shaped.
 Reason (R): Tropical level (T1) of the pyramid occupies large trees which are maximum in number.
 (a) Both A and R are wrong (b) A is right R is wrong (c) R explains A (d) A is right R is not the correct explanation for A
- 130) One of the chief reasons among the following for the depletion in the number of species making endangered is
 (a) over hunting and poaching (b) green house effect (c) competition and predation (d) Habitat destruction
- 131) Deforestation does not lead to
 (a) Quick nutrient cycling (b) soil erosion (c) alternation of local weather conditions (d) Destruction of natural habitat weather conditions
- 132) The plants which are grown in silivpasture system are
 (a) Sesbania and Acacia (b) Solenum and Crotalaria (c) Clitoria and Begonia (d) Teak and sandal
- 133) The total ozone layer over the earth surface is _____
 (a) 30 DU (b) 300 DU (c) 3000 DU (d) 0.3 DU
- 134) Which is not a true statement regarding rainwater harvesting?
 (a) Mitigates groundwater quality (b) Reduces soil erosion (c) Decreases soil salinity (d) No wastage of land for storing
- 135) Clean Development Mechanism (CDM) is defined in _____
 (a) Copenhagen Acord (b) Montreal Protocol (c) Paris Agreement (d) Kyoto Protocol
- 136) Pick out the odd pair
 (a) Mass selection - Morphological characters (b) Purline selection - Repeated self pollination (c) Clonal selection - Sexually propagated (d) Natural selection - Involves nature
- 137) Match Column I with Column II
 Column I Column II
 i) William S. Gaud I) Heterosis
 ii) Shull II) Mutation breeding
 iii) Cotton Mather III) Green revolution
 iv) Muller and Stadler IV) Natural hybridization
 (a) i - I, ii - II, iii - III, (b) i - III, ii - I, iii - IV, iv - II (c) i - IV, ii - II, iii - I, (d) i - II, ii - IV, iii - III, iv - I
- 138) Importing better varieties and plants from outside and acclimatizing them to local environment is called
 (a) cloning (b) heterosis (c) selection (d) introduction
- 139) _____ is the process of bringing a plant species under human control.
 (a) Emasculation (b) Hybridization (c) Domestication (d) Acclimatization

- 140) Damping off of tomato is controlled by
 (a) Beauveria species (b) Trichoderma species (c) Acacia species (d) Pseudomonas species
- 141) Consider the following statements and choose the right option.
 i) Cereals are members of grass family.
 ii) Most of the food grains come from monocotyledon.
 (a) (i) is correct and (ii) is wrong (b) Both (i) and (ii) are correct (c) (i) is wrong and (ii) is correct (d) Both (i) and (ii) are wrong
- 142) Assertion: Vegetables are important part of healthy eating.
 Reason: Vegetables are succulent structures of plants with pleasant aroma and flavours.
 (a) Assertion is correct, Reason is wrong (b) Assertion is wrong, Reason is correct (c) Both are correct and Reason is explanation for assertion. (d) Both are correct and Reason is not the correct explanation for assertion.
- 143) Tectona grandis is coming under family
 (a) Lamiaceae (b) Fabaceae (c) Dipterocarpaceae (d) Ebenaceae
- 144) Paddy, Wheat and Sorghum, etc., comes under the category of cereals. All the members of cereals belong to which of the following family?
 (a) Fabaceae (b) Poaceae (c) Leguminosae (d) Caesalpinoaceae
- 145) Identify the incorrect statements:
 (a) Morphine is used as potent hepatoprotective.
 (b) Phyllanthin is used as a strong analgesic in surgery.
 (c) Indian Acalypha is used to cure skin diseases.
 (d) Cissus quadrangularis is widely used for treating bone fractures.
 (a) a and c (b) a and d (c) b and c (d) a and b
- 146) Identify the mismatched pair:
 (a) Holy basil - Ocimum sanctum (b) Indian gooseberry - Phyllanthus amarus (c) Vilvam - Aegle marmelos (d) Veldt grape - Cissus quadrangularis
- 147) True about interferon is that
 (a) It is synthetic antiviral agent (b) It inhibits viral replication in cells (c) It is specific for a particular virus (d) It causes infection
- 148) B Cells are activated by
 (a) Complement (b) Antibody (c) Interferon (d) Antigen
- 149) Enhanced attachment is also known as _____
 (a) Opsonisation (b) Precipitation (c) agglutination (d) neutralisation
- 150) The _____ may disappear by adulthood.
 (a) Tonsils (b) Peyer's patches (c) Adenoids (d) Spleen

- 1) (a) Arrhenotoky
- 2) (c) Sexual
- 3) (a) Paedogamy
- 4) (c) Redia larvae of liver fluke
- 5) (c) 1-D 2-E 3-B 4-C 5-A
- 6) (d) All the above
- 7) (b) Leydig cell
- 8) (a) Allantois
- 9) (b) Hyaluronidase
- 10) (d) Pain
- 11) (b) parturition
- 12) (c) HIV is a pathogen whereas others are diseases.
- 13) (b) Syphilis, chlamydia and gonorrhoea
- 14) (a) Inhibition of spermatogenesis.
- 15) (d) Azoospermia

- 16)
(c) Progestasert
- 17)
(a) Multiple alleles
- 18)
(c) Multiple alleles map at different loci of a chromosome
- 19)
(b) $I^A I^O$ and $I^B I^O$
- 20)
(b) Haemophilia
- 21)
(c) 4
- 22)
(a) Co-dominant
- 23)
(b) DNA is the genetic material
- 24)
(b) Replication occurs as each base is paired with another exactly like it
- 25)
(a) One Oxygen atom more in Ribose
- 26)
(a) Nucleosome - Solenoid - Chromatid
- 27)
(b) 3
- 28)
(c) phylogeny
- 29)
(c) Devonian
- 30)
(a) Quaternary
- 31)
(c) Struggle for existence
- 32)
(b) Lamarck and Darwin
- 33)
(d) Liver
- 34)
(b) Alcohol
- 35)
(a) IgE
- 36)
(a) House fly
- 37)
(b) Varicella
- 38)
(a) Both (A) and (R) are true. (R) explains (A)
- 39)
(b) reverse transcriptase
- 40)
(d) *Saccharomyces cerevisiae* - Ethanol
- 41)
(a) *Bacillus thuringiensis*
- 42)
(b) Lactate fermentation
- 43)
(d) Streptococci
- 44)
(b) Cyclosporin A
- 45)
(a) *Azospirillum*
- 46)
(a) Detection of mutations



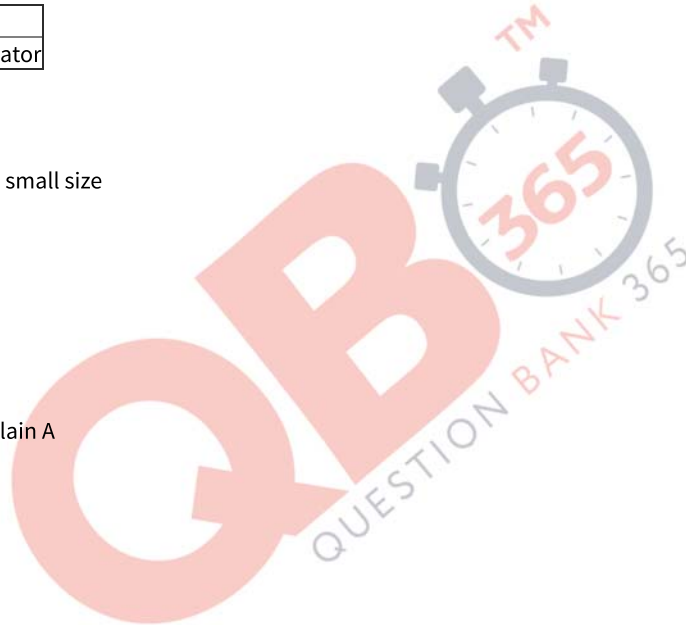
- 47)
(c) ovarian cells
- 48)
(b) cord blood bank
- 49)
(a) Blood
- 50)
(c) Coli
- 51)
(d) all the above
- 52)
(d) (+, --)

- 53)
(a) Extinction

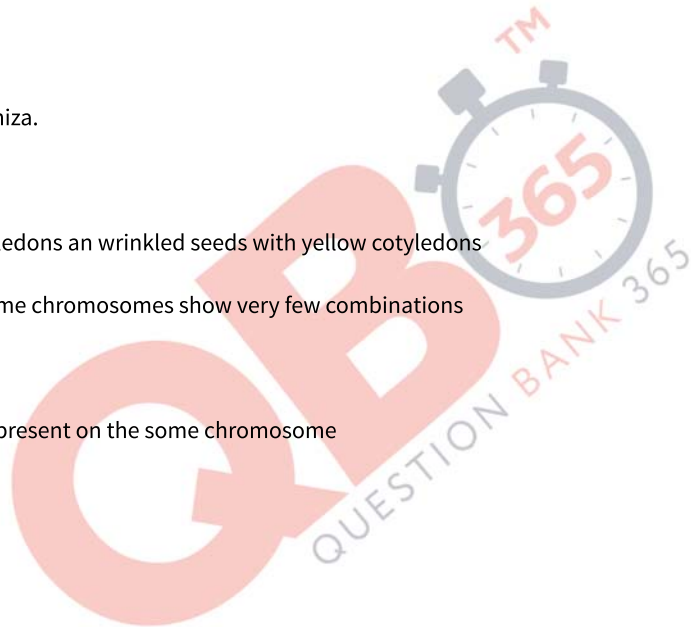
- 54)
(a)

A	B	C
Conformer	Regulator	Partial Regulator

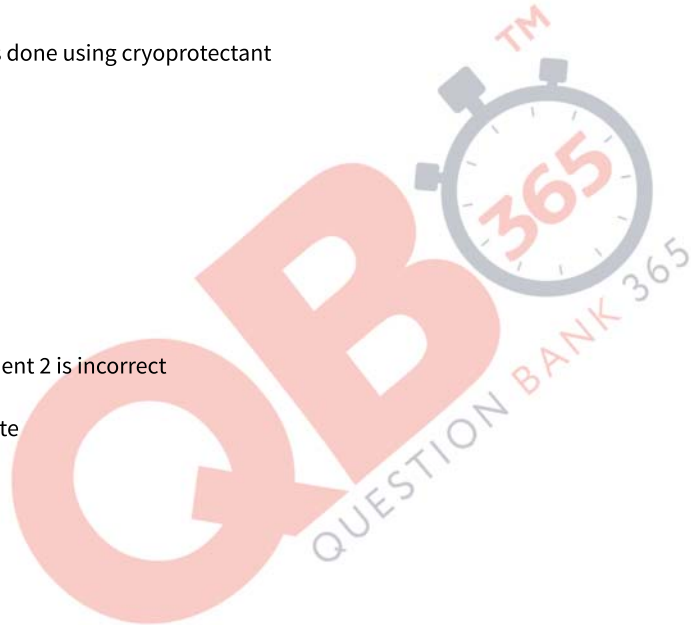
- 55)
(b) Commensalism
- 56)
(a) Large number of progeny with small size
- 57)
(d) (1) and (2)
- 58)
(b) Photokinesis
- 59)
(b) Water has less surface tension
- 60)
(a) Both A and R are correct R explain A
- 61)
(d) Long life expectancy
- 62)
(c) Zoological park
- 63)
(d) A and C
- 64)
(b) IUCN
- 65)
(c) Narcondam horn bills
- 66)
(c) Vulture
- 67)
(a) Poles < Equator
- 68)
(b) South Africa
- 69)
(a) Sustainable development
- 70)
(b) Dobson units
- 71)
(b) China
- 72)
(a) Copper
- 73)
(a) e-waste
- 74)
(d) Automobiles
- 75)
(b) 65 db, 55 db
- 76)
(c) Recycle and reuse



- 77)
(a) Biological Oxidation Demand
- 78)
(c) Rhizome - Musa
- 79)
(a) 10 micrometer
- 80)
(a) I-iv;II-i;III-ii;IV-iii
- 81)
(b) air
- 82)
(d) seed
- 83)
(d) Tapetum
- 84)
(d) a, c and d
- 85)
(a) 2-celled stage
- 86)
(b) Primitive root is called coleorhiza.
- 87)
(c) Nucellus - Testa and tegma
- 88)
(d) Round seeds with yellow cotyledons an wrinkled seeds with yellow cotyledons
- 89)
(a) Tightly linked genes on the same chromosomes show very few combinations
- 90)
(b) Dominant epistasis
- 91)
(c) The two genes are linked and present on the some chromosome
- 92)
(d) Polygenic inheritance
- 93)
(b) 12:3:1
- 94)
(d) none of he above
- 95)
(c) (i), (iii),(iv) are correct
- 96)
(d) none of the above
- 97)
(d) Inflated pod
- 98)
(b) W. Bateson
- 99)
(b) Law of recessiveness
- 100)
(b) SHGL
- 101)
(b) A to G, C to T, C to G and T to A
- 102)
(c) A is correct. R is wrong explanation of A
- 103)
(c) i, ii and iii
- 104)
(c) Ascorbic acid
- 105)
(a) Monosomy
- 106)
(d) I,II & III
- 107)
(d) D) c d a b



- 108)
(a) Ti plasmid causes the bunchy top disease
- 109)
(c) Sticky ends
- 110)
(d) Statement 1 is incorrect and Statement 2 is correct
- 111)
(c) R explains A.
- 112)
(b) 15 to 30 minutes and 121° C
- 113)
(b) Meristem culture
- 114)
(c) at very low temperature of -196 by using liquid nitrogen
- 115)
(c) Cell suspension culture
- 116)
(d) Encapsulation of embryoids is done using cryoprotectant
- 117)
(d) none of the above
- 118)
(b) Dedifferentiation
- 119)
(a) Calotropis
- 120)
(a) Nymphaea and typha
- 121)
(a) Statement 1 is correct. Statement 2 is incorrect
- 122)
(b) Submerged floating hydrophyte
- 123)
(a) April 22nd
- 124)
(b) Rice field
- 125)
(d) all of the above
- 126)
(c) pyramid of number in a pond ecosystem
- 127)
(b) latitude, altitude, direction of mountain and aptitude
- 128)
(c) 1.2 Joules
- 129)
(b) A is right R is wrong
- 130)
(d) Habitat destruction
- 131)
(a) Quick nutrient cycling
- 132)
(a) Sesbania and Acacia
- 133)
(b) 300 DU
- 134)
(a) Mitigates groundwater quality
- 135)
(d) Kyoto Protocol
- 136)
(a) Mass selection - Morphological characters
- 137)
(b) i – III, ii – I, iii – IV, iv – II
- 138)
(d) introduction



- 139)
(c) Domestication
- 140)
(a) Beauveria species
- 141)
(b) Both (i) and (ii) are correct
- 142)
(c) Both are correct and reason is the correct explanation for assertion.
- 143)
(a) Lamiaceae
- 144)
(b) Poaceae
- 145)
(d) a and b
- 146)
(b) Indian gooseberry - Phyllanthus amarus
- 147)
(b) It inhibits viral replication in cells
- 148)
(d) Antigen
- 149)
(a) Opsonisation
- 150)
(c) Adenoids

