

BIOLOGY

12th Standard

Biology

Time : 00:01:00 Hrs

Total Marks : 236

I choose the correct answer:

236 x 1 = 236

- 1) Intake of less amount of protein leads to the deficiency disease called
(a) Beri Beri (b) Rickets (c) Anaemia (d) Kwashiorkor
- 2) Each gram of lipid is capable of yielding.
(a) 9.3 calories (b) 8.2 calories (c) 7.1 calories (d) 6 calories
- 3) Deficiency of vitamin D causes
(a) Nyctalopia (b) Xerophthalmia (c) Osteomalacia (d) pellagra
- 4) The calorie requirement for IRM at heavy work during occupational activities is
(a) 1100 calories (b) 750 calories (c) 2200 calories (d) 460 calories
- 5) The normal BMI (body mass index) range for adults is
(a) 10 - 15 (b) 12 - 24 (c) 15 -20 (d) 19 - 25
- 6) The normal blood glucose level during fasting is
(a) 70 to 110 mg/dl (b) 80 to 200 mg/dl (c) 100 to 150 mg/dl (d) 200 to 250 mg/dl
- 7) During emulsification, the bile salts convert bigger fat particles into smaller globules called
(a) granules (b) oil (c) chylomicrons (d) millimicrons
- 8) During root canal treatment, the cavity of the tooth is filled with a sealing paste made of
(a) chitin (b) calcium carbonate (c) iodised salt (d) gutta-percha resin
- 9) The gall stones are formed of
(a) calcium (b) growing infected tissue (c) cholesterol (d) sodium crystals
- 10) A fracture can be caused by
(a) shock (b) loss of blood supply (c) impact of force (d) malnutrition
- 11) The granulation of tissue around the site of fracture is called
(a) nodule (b) papilla (c) rudiment (d) callus
- 12) An inflammation of synovial membrane is called as
(a) infective arthritis (b) osteoarthritis (c) rheumatic arthritis
(d) mechanical arthritis
- 13) During the contraction of muscle the ATP molecules bind with the active site of
(a) myosin filament (b) myofibrils (c) nerve endings (d) actin filaments
- 14) Ca ions necessary for the contraction of muscles are released from
(a) blood (b) protoplasm (c) synovial membrane (d) sarcoplasmic reticulum

- 15) What is the substance that destroys the muscle protein during rigor mortis
(a) proteolytic enzymes (b) mitochondrial enzymes (c) lysosome enzymes
(d) esterases
- 16) The surface area of skin in our body is
(a) $1.1 - 2.2m^2$ (b) $2.2 - 3.3m^2$ (c) $1 - 2m^2$ (d) $0.5 - 1.5m^2$
- 17) An oily substance called sebum is secreted by
(a) sweat gland (b) sebaceous gland (c) thyroid gland (d) tear gland
- 18) Albinism is an extreme degree of generalized
(a) hyperpigmentation (b) hypopigmentation (c) failure of pigmentation
(d) perioral pigmentation
- 19) Partial albinism causes
(a) leucoderma (b) vitiligo (c) melanoma (d) dermatitis.
- 20) Excessive exposure to U V-rays can cause
(a) vomiting (b) redness of eyes (c) colour change (d) skin cancer
- 21) Rag weed plant causes allergic responses and results in
(a) photo dermatitis (b) herpetiformis dermatitis (c) dermatitis artefacta
(d) all the above
- 22) The amount of urea present in blood is
(a) 0.02gms/100ml (b) 0.06gms/100ml (c) 0.08gms/100ml (d) 0.01gms/100ml
- 23) Urea biosynthesis takes place in
(a) blood (b) liver (c) cerebro-spinal fluid (d) kidney
- 24) Number of ATP molecules spent to convert ammonia to urea is
(a) four (b) two (c) three (d) one
- 25) During glomerular filtration the malpighian body acts like a
(a) structural unit (b) biological filter (c) biological buffer (d) acid-base balancer
- 26) The amount of blood supplied to the kidneys is about
(a) 20-25% of cardiac output (b) 25-30% of cardiac output
(c) 30 -35% of cardiac output (d) 35-40% of cardiac output
- 27) Net filtration force which is responsible for the filtration in glomerulus is
(a) 25 mm Hg (b) 50 mm Hg (c) 75 mm Hg (d) 80 mm Hg
- 28) The amount of urea reabsorbed in the urinary tubules is
(a) 5 gm (b) 17gm (c) 21gm (d) 20gm
- 29) Area responsible for reabsorption of water, glucose, sodium phosphate and bicarbonates is
(a) glomerulus (b) proximal convoluted tubules (c) collecting duct
(d) descending limb of Henle's loop

- 30) The volume of water found in the glomerular filtrate is
(a) 170 lit (b) 168.5 lit (c) 165 lit (d) 162.8 lit
- 31) In recent days insulin resistant diabetes is commonly noticed in the age group of
(a) 10 - 15 years (b) 40 - 50 years (c) 35 - 40 years (d) 20 - 25 years
- 32) Which of the following is called the artificial kidney?
(a) donor kidney (b) dialyzer (c) tissue-matched kidney (d) preserved kidney
- 33) The type of diabetes that develops due to heavy viral infection belongs to the category called
(a) Insulin dependent diabetes (b) non-insulin dependent diabetes
(c) inflammator diabetes (d) harmful diabetes
- 34) Who initially developed the vaccine for rabies in man ?
(a) Robert Koch (b) Joseph Lister (c) Louis Pasteur (d) Stanley
- 35) Which one of the following fields paved the way for modern microbiology ?
(a) development of vaccines (b) technique of new viral strains
(c) discovery of new viral strains (d) development of pure culture technique
- 36) Which one of the following statements is incorrect regarding the structure of viruses ?
(a) Nucleic materials are covered by a protein coat, called capsid.
(b) The capsid is made up of capsomeres
(c) some animal viruses have an additional envelope
(d) The additional envelope is made up of glycoprotein
- 37) Virions contain only a single copy of nucleic acid, hence they are called
(a) incomplete viruses (b) haploid viruses (c) ploidy viruses (d) complete viruses
- 38) Tumour inducing viruses are called
(a) pathogenic viruses (b) oncogenic viruses (c) para viruses (d) variola viruses
- 39) Which one of the following is a protozoan disease ?
(a) African sleeping sickness (b) measles (c) Cholera (d) Taeniasis
- 40) Sexual reproduction of plasmodium takes place in
(a) Liver cells of man (b) RBCs of man (c) plasma of man (d) body of mosquito
- 41) The pathogenic form of entamoeba histolytica is
(a) encysted spores (b) vegetative trophozoite (c) merozoite (d) schizont
- 42) Which one of the following is a trematode worm ?
(a) Schistosomes (b) Wuchereria (c) Taenia (d) Ascaris
- 43) The more promising chemotherapeutic agent for treating viral diseases is
(a) Tetracycline (b) Ampicillin (c) Interferon (d) Anthramycin
- 44) Which of the following can induce immunity
(a) Bacteria (b) Viruses (c) Parasites (d) All the above

- 45) Skin is a/an -----
(a) anatomical barrier (b) physiological barrier (c) phagocytic barrier
(d) inflammatory barrier
- 46) Which among the following is anti-bacterial ?
(a) interferon (b) lysozyme (c) hormone (d) protein
- 47) Which of the following is anti-viral?
(a) lysozyme (b) interferon (c) protein (d) hormone
- 48) Identify the phagocytic cells from the following combinations
(a) Macrophage and neutrophil (b) Lymphocyte and eosinophil
(c) Macrophage and eosinophil (d) Eosinophil and neutrophil
- 49) Histamine is secreted by
(a) Epithelial cell (b) Mast cells (c) Red blood cells (d) White blood cells
- 50) Humoral immunity consists of
(a) normal cells (b) pathological cells (c) cytotoxic cells (d) immunoglobulin molecules
- 51) Which type of graft is used in plastic surgery ?
(a) xenograft (b) allograft (c) autograft (d) isograft
- 52) MHC genes in mouse is located in
(a) Chromosome 1 (b) Chromosome 2 (c) Chromosome 4 (d) Chromosome 6
- 53) Which of the following is an auto immune disease ?
(a) AIDS (b) Multiple sclerosis (c) Cancer (d) Asthma
- 54) Which antibody characterizes the allergic reaction ?
(a) IgG (b) IgA (c) IgM (d) IgE
- 55) SCID is due to -----
(a) Adenosine deaminase deficiency (b) Glucose oxidase deficiency
(c) phosphatase deficiency (d) Lactate dehydrogenase deficiency
- 56) Which of the following causes AIDS ?
(a) Bacteria (b) Fungus (c) Retrovirus (d) TMV
- 57) Thymus growth occurs up to
(a) 17 years (b) 12 years (c) 5 years (d) 30 years
- 58) Which of the following secretes immunoglobulin?
(a) T-lymphocyte (b) B-lymphocyte (c) Macrophage (d) Mast cells
- 59) The H-chain of immunoglobulin has a molecular weight
(a) equivalent to that of light chain (b) Twice that of light chain
(c) Triple the amount of light chain (d) Twice as that of dark chain
- 60) Immunoglobulins are chemically
(a) glycogens (b) glyco-proteins (c) glycolipids (d) Lipo-proteins

- 61) Hyper variability regions are present in -----
(a) heavy chain only (b) light chain only (c) heavy and light (d) dark chain
- 62) Organ transplantation from pig to human is an example for
(a) Autograft (b) Allograft (c) ISOgraft (d) Xenograft
- 63) Graft between identical twins is called -----
(a) Xenograft (b) Allograft (c) Auto graft (d) Iso graft
- 64) In which prokaryote has voluminous genetic works been made
(a) TMV virus (b) Phage (c) Escherichia coli (d) coliform bacteria
- 65) Who discovered the double helix DNA model ?
(a) H.G. Khorana (b) Mendel (c) T.H.Morgan (d) Watson and Crick
- 66) About how many hereditary diseases in human beings had been identified ?
(a) more than 300 (b) less than 300 (c) about 400 (d) about 100
- 67) Which of the following methods help in obtaining of information about genetic characters in man ?
(a) Biochemical test (b) Hybridization (c) Pedigree analysis (d) Inbreeding
- 68) Sickle cell anaemia is due to
(a) autosomal gene (b) sex chromosomal gene (c) vitamin deficiency
(d) hormone imbalance
- 69) Albinism is due to
(a) absence of melanin (b) absence of vitamins (c) presence of melanin
(d) absence of hormone
- 70) Name the human disease due to autosomal dominant gene
(a) sickle cell anaemia (b) thalasemia (c) SCID (d) huntington's chorea
- 71) Idiogram means
(a) Diagrammatic representation of genes
(b) Diagrammatic representation of chromosome (c) Graph showing heart defect
(d) electro cardiogram
- 72) In human chromosome karyotyping the chromosomes 4 and 5 belong to group
(a) A (b) B (c) C (d) D
- 73) What is the name for mobile genetic elements?
(a) plasmids (b) pili (c) barr body (d) transposons
- 74) What is the rate of growth of human population?
(a) 10 billion per year (b) 90 billion per year (c) 1 billion per year
(d) 80 billion per year
- 75) The present sudden acceleration of population is called as
(a) population explosion (b) population bomb (c) population trap (d) all the above

- 76) Global warming is caused due to
- (a) lack of rainfall (b) presence of a hole in ozone layer
(c) human activities against nature (d) extinction of animals and plants
- 77) The most abundant green house gas is
- (a) NO_2 (b) CO_2 (c) O_3 (d) SO_2
- 78) which of the following gas destroys ozone layer faster?
- (a) chlorofluorocarbons (b) hydrochlorofluorocarbons (c) both (a) and (b)
(d) sulphur dioxide
- 79) Which is a better method to dispose large amount of water carrying relatively small amounts of chemical wastes?
- (a) land filling method (b) Deep-well injection (c) surface impoundments
(d) incineration
- 80) Which one of the following organisms plays a vital role in pollination of trees in tropical forest?
- (a) mimic moths (b) orchid bees (c) Rhinoceros beetles (d) Humming birds
- 81) Which is commonly considered as a Biologist's paradise? (or) Which of the following is a marine biosphere reserve?
- (a) Gulf of Mannar Biosphere Reserve (b) Nilgiri Biosphere Reserve (c) Nanda Devi
(d) Great Nicobar
- 82) The amount of energy the earth receives from the sun per year is
- (a) 1000 K calories (b) 10×10^{30} K calories (c) 5×10^{20} K calories
(d) 15×10^{25} K calories
- 83) Which is considered as a future source of power , that can meet our future unlimited demand?
- (a) Hydel power (b) Hydrogen (c) Thermal power (d) Solar power
- 84) Of the total amount of water, how much is available as fresh water?
- (a) 10% (b) 3% (c) 15% (d) 50%
- 85) Which of the following countries depend on desalinisation process for getting fresh water?
- (a) Dubai (b) Oman (c) Bahrain (d) all the above
- 86) The breeds of cattle now available in India are
- (a) 29 (b) 30 (c) 26 (d) 20
- 87) which one of the following is not a draught breed?
- (a) Kangayam (b) Khillar (c) Kankrej (d) Hallikar
- 88) The other name for the cattle 'Sindhi' is.....
- (a) Kongu (b) Nellore (c) Red Karachi (d) Deccan
- 89) Kangayam originated from
- (a) punjab (b) coimbatore (c) karnataka (d) kathiawar

- 90) Which of the following is not an exotic breed?
(a) jersey (b) Gir (c) Brown swiss (d) Ayreshire
- 91) which one of the following is a contagious disease of the cattle?
(a) constipation (b) Milk fever (c) Cow pox (d) Diabetes
- 92) Feeding jaggery along with limewater is one of the first aid measure for
(a) diarrhoea (b) constipation (c) milk-fever (d) anthrax
- 93) Mating of closely related animals is called
(a) out breeding (b) Artificial insemination (c) Cross breeding (d) Inbreeding
- 94) The milk which the following cow is characterised by high carotene content?
(a) sindhi (b) haryana (c) Gir (d) Jersy
- 95) For anthrax of the following symptom can be seen
(a) Swelling of udder (b) Blood discharge from natural openings (c) Loss of appetite
(d) Lack of chewing
- 96) The book 'Philosophie Zoologique' was published by _____
(a) Charles Darwin (b) August Weismann (c) Mc Dougall (d) Jean Baptiste de Lamarck
- 97) The German scientist who segregated germplasm from somatoplasm for the first time was _____
(a) Lamarck (b) Malthus (c) Weismann (d) Hugo de vries
- 98) Mc Dougall supported neo-Lamarckism and proved the concept of _____
(a) Direct action of environment on organism (b) Learning is an acquired character
(c) Speed of learning increased from generation to generation (d) All the above
- 99) Through which of the following concepts did Darwin explain his theory of evolution?
(a) arrival of the fittest (b) survival of the fittest
(c) The differentiation of somatoplasm and germplasm (d) genetic recombinations
- 100) The book "Process of Organic Evolution" to support modern synthetic theory of evolution was written by _____
(a) Dobzhansky (b) G.L. Stebbins (c) Hardy-Weinberg (d) Hugo de Vries
- 101) The factor that enriches the genepool with new modified genes is _____
(a) mutation (b) somatic variation (c) decrease in chromosomes
(d) increases in cytoplasm
- 102) Artificial system of classification of plants was proposed by a
(a) British botanist (b) Swedish botanist (c) German botanist (d) Indian botanist
- 103) Which of the following Classification is a sexual system of calssification ?
(a) Artificial system (b) Natural System (c) Phylogenetic system (d) Natural selection
- 104) The botanist who introduced binominal system is
(a) Carolus Linnaeus (b) Gaspard Bauhin (c) sir Joseph Dalton Hooker (d) Adolf Engler

- 105) *Genera Plantarum* of Bentham and Hooker was Published in
(a) a single volume (b) two volumes (c) three Volumes (d) four Volumes
- 106) In Bentham and Hooker classification of plants, the present day 'orders' were referred to by them as
(a) Series (b) Cohorts (c) orders (d) families
- 107) Plants having flowers with free petals are placed under.....
(a) Monochlamydeae (b) Monocotyledons (c) Gamopetalae (d) Polypetalae
- 108) *Inferae* includes
(a) 6 Orders and 34 families (b) 4 Order and 23 familes (c) 3 Ordrs and 9 familes
(d) 5 orders and 27 families
- 109) How many families were described by Bentham and Hooker in their classification?
(a) 204 (b) 212 (c) 202 (d) 222
- 110) In Bentham and Hooker's classification of plants, the present by " families" were referred to by them as
(a) families (b) Cohorts (c) Orders (d) series
- 111) *Thalamiflorae* includes
(a) 4 Orders and 23 families (b) 6 Orders and 34 families (c) 5 Orders and 27 families
(d) 3 Order and 12 families
- 112) Which one of the following series includes the epigynous flowers?
(a) *Thalamiflorae* (b) *Disciflorae* (c) *Inferae* (d) *Heteromerae*
- 113) The family included under the series *Unisexuales* is
(a) *Solanaceae* (b) *Euphorbiaceae* (c) *Malvaceae* (d) *Musaceae*
- 114) *Solanaceae* is placed under
(a) *Malvales* (b) *Polemoniales* (c) *Unisexuales* (d) *Ranales*
- 115) In which of the following plants the midrib and veins are found with yellowish spines
(a) *Solanum melongena* (b) *Datura metal* (c) *Solanum xanthocarpum*
(d) *Petunia hybrida*
- 116) The Carpels are Obliquely placed in the members of
(a) *Malvaceae* (b) *Solanaceae* (c) *Euphorbiaceae* (d) *Musaceae*
- 117) *Euphorbiaceae* includes about
(a) 82 genera (b) 90 genera (c) 300 genera (d) 254 genera
- 118) *Ricinus communis* is a
(a) herb (b) shrub (c) tree (d) cladode
- 119) An example of cladode is
(a) *Phyllanthus emblica* (b) *Ricinus communis* (c) *Jatropha curcas*
(d) *Euphorbia tirucalli*

- 120) In *Hevea brasiliensis*, the leaves are
(a) simple (b) trifoliately compound (c) sessile (d) Palmately lobed
- 121) "The bird of paradise flower" refers to
(a) *Musa paradisiaca* (b) *Strelitzia reginae* (c) *Ravenala madagascariensis*
(d) *Heliconia* sp
- 122) The phyllotaxy in *Musa* is
(a) alternate (b) opposite (c) distichous (d) spiral
- 123) The number of fertile stamens in *Ravenala madagascariensis*, is
(a) three (b) four (c) five (d) six
- 124) *Thespesia populnea* belongs to
(a) Solanaceae (b) Euphorbiaceae (c) Malvaceae (d) Musaceae
- 125) Malvaceae is placed in the series
(a) Thalamiflorae (b) Inferae (c) Heteromerae (d) Disciflorae
- 126) Anthers are monothealous in
(a) Solanaceae (b) Euphorbiaceae (c) Malvaceae (d) Musaceae
- 127) In *Abelmoschus esculentus*, the fruit is
(a) drupe (b) schizocarp (c) regma (d) loculicidal capsule
- 128) Binomial of lady's finger is
(a) *Hibiscus cannabinus* (b) *Thespesia populnea* (c) *Gossypium barbadense*
(d) *Abelmoschus esculentus*
- 129) The type of inflorescence in *Ravenala madagascariensis*
(a) compound cyme (b) branched spadix (c) simple raceme (d) compound raceme
- 130) The change from meristematic tissue to permanent tissue is called
(a) differentiation. (b) self perpetuating. (c) photosynthesis. (d) cell division
- 131) The type of tissue presents in the petioles of banana and canna, is
(a) stellate parenchyma (b) prosenchyma (c) aerenchyma (d) chlorenchyma
- 132) The tissue generally present in all organs of plant is (or)----- is found in all organs of the plant.
(a) parenchyma (b) chlorenchyma (c) collenchyma (d) sclerenchyma
- 133) The lamellar collenchyma is seen in the hypodermis of
(a) *Datura* (b) *Helianthus* (c) *Ipomoea* (d) *Nicotiana*
- 134) The root hairs are produced from
(a) rhizodermis (b) trichomes (c) accessory cells (d) trichoblasts
- 135) The osteosclereids are seen in
(a) seed coat of *Crotalaria* (b) seed coat of *Pisum* (c) plup of *Pyrus*
(d) petioles of banana

- 136) Bicollateral vascular bundles are seen in the members of
(a) Malvaceae (b) Musaceae (c) Solanaceae (d) Cucurbitaceae
- 137) The root hairs originate from,
(a) trichoblasts (b) endodermis (c) hypodermis (d) pericycle
- 138) The casparian strips are found in the endodermis of
(a) dicot stem (b) dicot root (c) monocot stem (d) dicot leaf
- 139) The passage cells are found in endodermis of
(a) dicot stem (b) monocot stem (c) dicot root (d) dicot leaf
- 140) The polyarch condition is found in
(a) monocot leaf (b) dicot leaf (c) dicot stem (d) monocot root
- 141) The inner most layer of the cortex is
(a) epidermis (b) hypodermis (c) endodermis (d) pericycle
- 142) The vascular bundle with protoxylem facing centre of the stem is
(a) exarch (b) endarch (c) tetrarch (d) polyarch
- 143) When the xylem and the phloem lie in the same radius, the vascular bundle is called
(a) conjoint (b) radial (c) open (d) closed
- 144) The vascular bundles are skull shaped in
(a) dicot root (b) monocot root (c) dicot stem (d) monocot stem
- 145) The protoxylem lacuna is present in the vascular bundles of
(a) dicot root (b) monocot root (c) dicot stem (d) monocot stem
- 146) Isobilateral leaf is present in
(a) grass (b) cucurbita (c) sunflower (d) bean
- 147) The vascular bundle in the leaf is
(a) collateral and open (b) collateral and closed (c) bicollateral and open
(d) collateral and exarch
- 148) The term chromosome was introduced by
(a) Bridges (b) Waldeyer (c) Balbiani (d) Flemming
- 149) Who had first proved that the genes are carried by the chromosome?
(a) Bridges (b) Waldeyer (c) Balbiani (d) Flemming
- 150) The coupling test cross ratio is
(a) 1:7:7:1 (b) 7:1:1:7 (c) 1:1:1:1 (d) 9:3:3:1
- 151) Recombination of chromosome takes place in _____ stage of prophase I of meiosis.
(a) leptotene (b) zygotene (c) pachytene (d) diplotene
- 152) Hugo de Vries first used the term mutation based on his observation on
(a) Sorghum (b) Neurospora (c) Oenothera lamarckiana (d) Cicer gigas

- 153) Biochemical mutants of _____ failed to synthesize certain amino acids
(a) Sorghum (b) Neurospora (c) Cicer arietinum (d) Cicer gigas
- 154) The Gametes of *Drosophila melanogaster* carry
(a) three chromosomes (b) four chromosomes (c) seven chromosomes
(d) eight chromosomes
- 155) Nullisomy is represented by
(a) $2n - 1$ (b) $2n + 1$ (c) $2n + 2$ (d) $2n - 2$
- 156) RNA is universally present in all organisms except in _____.
(a) TMV (b) bacteria (c) algae (d) DNA viruses
- 157) mRNA is about _____ of the RNA content of the cell
(a) 10 - 20% (b) 5 - 10 % (c) 3 - 5 % (d) 20 - 30%
- 158) In bacterial cell, there are more than _____ tRNAs
(a) 200 (b) 70 (c) 300 (d) 400
- 159) Double helix DNA model was proposed by _____
(a) Waston and Crick (b) O.T.Avery et al (c) Griffith (d) Stinberg
- 160) The width Of DNA molecule is
(a) 18 Å (b) 20Å (c) 34 Å (d) 35 Å
- 161) Restriction enzymes are synthesized by
(a) bacteria only (b) yeast and bacteria only (c) eukaryotic cells only
(d) all kinds of cells
- 162) Each restriction enzyme cleaves a molecule only at
(a) the ends of genes (b) methyl groups (c) nucleotide sequence
(d) the time of DNA replication
- 163) One of the following process is employed to introduce a foreign gene into a cell
(a) electrolysis (b) electroporation (c) plasmid (d) ligation
- 164) The number of transgenic plants available to-day are approximately
(a) six (b) two (c) twelve (d) fifty
- 165) A toxic protein called delta endotoxin is insecticidal and it is produced by
(a) *Escherichia coli* (b) *Streptomyces griseus* (c) *Bacillus thuringiensis*
(d) *Bacillus lactii*
- 166) *Pseudomonas putida* is a engineered bacterium that can
(a) produce a hormone (b) produce a antibiotic (c) digest crude oil slick
(d) pollute the soil
- 167) The inherent potential of any living plant cell to develop into entire organism is called
(a) differentiation (b) organogenesis (c) morphogenesis (d) totipotency

- 168) The function of cytokinin is to increase
(a) cell elongation (b) fruit initiation (c) cell division (d) differentiation
- 169) By the application of tissue culture, one important product is formed
(a) artificial synthetic seeds (b) many seeded fruit (c) triploid endosperm
(d) induction of flowers
- 170) The two protoplasts are fused with a fusogen called
(a) polyethylene glycol (PEG) (b) Polyvinyl chloride (PVC) (c) Polyethane glycol (PEG)
(d) Phosphoric ethane
- 171) Somatic hybrids are produced through
(a) asexual fusion (b) protoplasmic fusion (c) vegetative propagation (d) grafting
- 172) One of the following organism is a SCP
(a) Nostoc (b) Rhizobium (c) Mushroom (d) Spirulina
- 173) Enriched vitamin tablets are produced from the following organism for human consumption
(a) Nostoc (b) yeast (c) Mushroom (d) Spirulina
- 174) Photosynthesis takes place in
(a) mitochondria (b) peroxisomes (c) chloroplasts (d) ribosomes
- 175) During cyclic electron transport, which one of the following is produced
(a) NADPH₂ only (b) ATP only (c) NADH₂ only (d) both ATP and NADPH₂
- 176) Which one of the following is a five carbon compound?
(a) fructose (b) erythrose (c) ribose (d) DHAP
- 177) which one of the following is a C₄ plant?
(a) rice (b) wheat (c) sugarcane (d) potato
- 178) The essential component for the formation of chlorophyll
(a) Mg (b) Fe (c) Cl (d) Mn
- 179) The pigment which is highly efficient in absorbing solar energy is
(a) phycobilins (b) chlorophyll (c) carotinoids (d) xanthophyll
- 180) Which of the following bacterium oxidizes ammonia to nitrate
(a) Nitrosomonas (b) Rhizobium (c) Closteridium (d) E.coli
- 181) Which of the following is a total parasite
(a) Cuscuta (b) Viscum (c) Drosera (d) Monotropa
- 182) Which of the following wavelengths of light is most effective for photosynthesis
(a) 100nm to 200nm (b) 200nm to 300nm (c) 400nm to 700nm (d) 700nm to 900nm
- 183) Dark respiration is the function of
(a) peroxisomes (b) mitochondria (c) chloroplast (d) ribosomes
- 184) The gas evolved during photosynthesis is
(a) carbondioxide (b) nitrogen (c) hydrogen (d) oxygen

- 185) Dark reaction is also known as
(a) krebs cycle (b) Calvin cycle (c) pentosephosphate pathway (d) photorespiration
- 186) C_4 pathway is otherwise known as
(a) EMP pathway (b) Hatch slack pathway (c) photorespiration
(d) electron transport chain
- 187) Photorespiration is otherwise called as
(a) C_2 cycle (b) C_3 cycle (c) C_4 cycle (d) C_5 cycle
- 188) An example for insectivorous plant is
(a) Drosera (b) Viscum (c) Monotropa (d) vanda
- 189) Which of the following is regarded as primary pigment?
(a) carotenoid (b) Xanthophyll (c) Chlorophyll 'a' (d) Chlorophyll 'b'
- 190) The dark reactions of photosynthesis were discovered by
(a) Embden and Meyer (b) Melvin Calvin (c) Krebs (d) Parnas
- 191) Which of the following is a 5C compound ?
(a) Glucose (b) Fructose (c) phosphoglyceric acid (d) RuBP
- 192) In C_3 plants light reactions and dark reactions occur in
(a) bundle sheath cells (b) mesophyll cells (c) epidermal cells (d) vascular cells
- 193) In C_3 pathway acceptor molecule of CO_2 is
(a) phosphoenolpyruvate (b) RuBP (c) PGA (d) DHAP
- 194) Which of the following is not a C_4 plant?
(a) Maize (b) Tribulus (c) Amaranthus (d) Wheat
- 195) Vanda plant is a/an
(a) total parasite (b) partial parasite (c) epiphyte (d) saprophyte
- 196) The reducing power produced in the light reaction is
(a) $NADP^+$ (b) ATP (c) ADP (d) $NADPH_2$
- 197) Which of the following is not accessory pigments?
(a) phycobilins (b) chlorophylls (c) Carotenoids (d) Xanthophylls
- 198) The photosynthetic pigments are located in
(a) Cristae (b) Cisternae (c) thylakoid (d) stroma
- 199) Which of the following is the common respiratory substrate?
(a) proteins (b) Lipids (c) carbohydrates (d) vitamins
- 200) The number of high energy terminal bonds present in ATP is
(a) one (b) two (c) three (d) four
- 201) The first step in aerobic respiration is
(a) glycolysis (b) krebs cycle (c) terminal oxidation (d) cyclic photophosphorylation
- 202) Glucose is phosphorylated to glucose -6- phosphate by the enzyme
(a) aldolase (b) enolase (c) pyruvic kinase (d) hexokinase

- 203) Cisaconitic acid is covered into isocitric acid by the addition of a molecule of water. This reaction is catalyzed by
(a) citric acid synthetase (b) fumarase (c) malic dehydrogenase (d) aconitase
- 204) Complete oxidation of the one molecule of glucose yields
(a) 38 ATP (b) 36 ATP (c) 35 ATP (d) 2 ATP
- 205) Oxidative decarboxylation of pyruvic acid is catalysed by
(a) pyruvic dehydrogenase (b) pyruvic kinase (c) pyruvic mutase (d) pyruvic isomerase
- 206) α -ketoglutaric acid is a _____ carbon compound
(a) two (b) three (c) four (d) five
- 207) Glugose is phosphorylated to glugose -6- phosphate by
(a) aldolase (b) kinase (c) mutase (d) hexokinase
- 208) Respiratory quotient of glucose is
(a) zero (b) unity (c) more than one (d) less than one
- 209) One molecule of $FADH_2$ on oxidation yields.
(a) one ATP (b) two ATP (c) three ATP (d) four ATP
- 210) One molecule of $NADH_2$ on oxidation yields.
(a) one ATP (b) two ATP (c) three ATP (d) four ATP
- 211) Formation of ATP during electron transport chain is knows as
(a) dephosphorylation (b) phtophosphorylation (c) oxidative phosphorylation
(d) substrate level phosphorylation
- 212) Which of the following is reffered to as EMP?
(a) Glycolysis (b) krebs cycle (c) Electron transport chain
(d) pentose phosphate pathway
- 213) The total amount of energy released from one molecule of glucose on oxidation ia about
(a) 1600kJ (b) 2300kJ (c) 2500kJ (d) 2900kJ
- 214) Which of the following is a 5C compound?
(a) phosphoglyceraldehyde (b) Erythrose phosphate (c) Xylulose phosphate
(d) Sedoheptulose phosphate
- 215) Which one of the following plant hormones was first discovered?
(a) Auxin (b) Gibberellin (c) Cytokinin (d) Ethylene
- 216) An example for synthetic auxin is
(a) IAA (b) PAA (c) ABA (d) NAA
- 217) Apical dominance is due to
(a) ethylene (b) auxin (c) gibberellin (d) cytokinin
- 218) Bakanae disease in paddy is caused by
(a) abscissic acid (b) phenyl acetic acid (c) naphthelene acetic acid (d) gibberellic acid

- 219) In sigmoid curve the rapid growth phase is designated as
(a) lag phase (b) log phase (c) dormant phase (d) steady state phase
- 220) Auxin prevents
(a) apical dominance (b) ageing process (c) parthenocarpy (d) abscission
- 221) "Foolish seedling" disease of rice is caused by
(a) auxin (b) gibberellins (c) cytokinin (d) abscisic acid
- 222) closure of stomata is caused by
(a) auxin (b) gibberellins (c) cytokinin (d) abscisic acid
- 223) The chemical used in the field to eradicate weeds is
(a) 2,4-D (b) IAA (c) ABA (d) urea
- 224) Abscission is prevented by
(a) Auxin (b) Gibberellin (c) Cytokinin (d) Ethylene
- 225) Which of the following is a gaseous hormone?
(a) Kinetin (b) Zeatin (c) Auxin (d) Ethylene
- 226) Which of the following is natural auxin found in higher plants?
(a) I.A.A. (b) 2,4-D (c) GA (d) Zeatin
- 227) The response of a plant to relative lengths of light and dark periods is known as
(a) vernalization (b) photorespiration (c) photosynthesis (d) photoperiodism
- 228) Photoperiodic response in flowering was first observed in
(a) Wheat (b) Maryland Mammoth (c) Oats (d) Chrysanthemum
- 229) Which of the following is a short day plant?
(a) wheat (b) tobacco (c) sunflower (d) maize
- 230) Which of the following is a long day plant?
(a) tobacco (b) sunflower (c) maize (d) wheat
- 231) Fructose 1,6-bisphosphate is cleaved to two molecules of 3 carbon compounds by
(a) aldolase (b) enolase (c) pyruvic kinase (d) hexokinase
- 232) Which pathogen causes the blast disease of rice?
(a) *Cercospora personata* (b) *Pyricularia oryzae* (c) *Xanthomonas citri* (d) Tungro virus
- 233) What is the collateral host plant of *Pyricularia oryzae*?
(a) *Oryza sativa* (b) *Digitaria marginata* (c) *Arachis hypogea* (d) Citrus plant
- 234) Which pathogen causes Tikka disease of groundnut?
(a) *Cercospora personata* (b) *Pyricularia oryzae* (c) *Xanthomonas citri* (d) Tungro virus
- 235) Acalyphine is extracted from
(a) *Acalypha indica* (b) *Aegle marmelos* (c) *Cissus quadrangularis* (d) *Mimosa pudica*
- 236) Binomial of 'vilvam' is
(a) *Acalypha indica* (b) *Aegle marmelos* (c) *Cissus quadrangularis* (d) *Mimosa pudica*

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Munirunnisa A
P.G.Assistant in Zoology.
Polur-606803.

BIOLOGY

12th Standard

Biology

Time : 00:01:00 Hrs

Total Marks : 236

I choose the correct answer:

236 × 1 = 236

- 1) Intake of less amount of protein leads to the deficiency disease called
(a) Beri Beri (b) Rickets (c) Anaemia (d) **Kwashiorkar**
- 2) Each gram of lipid is capable of yielding.
(a) **9.3 calories** (b) 8.2 calories (c) 7.1 calories (d) 6 calories
- 3) Deficiency of vitamin D causes
(a) Nyctalopia (b) Xerophthalmia (c) **Osteomalacia** (d) pellagra
- 4) The calorie requirement for IRM at heavy work during occupational activities is
(a) 1100 calories (b) 750 calories (c) **2200 calories** (d) 460 calories
- 5) The normal BMI (body mass index) range for adults is
(a) 10 - 15 (b) 12 - 24 (c) 15 -20 (d) **19 - 25**
- 6) The normal blood glucose level during fasting is
(a) **70 to 110 mg/dl** (b) 80 to 200 mg/dl (c) 100 to 150 mg/dl
(d) 200 to 250 mg/dl
- 7) During emulsification, the bile salts convert bigger fat particles into smaller globules called
(a) granules (b) oil (c) **chilomicrons** (d) millimicrons
- 8) During root canal treatment, the cavity of the tooth is filled with a sealing paste made of
(a) chitin (b) calcium carbonate (c) iodised salt (d) **gutta-percha resin**
- 9) The gall stones are formed of
(a) calcium (b) growing infected tissue (c) **cholesterol**
(d) sodium crystals
- 10) A fracture can be caused by
(a) shock (b) loss of blood supply (c) **impact of force** (d) malnutrition

- 11) The granulation of tissue around the site of fracture is called
(a) nodule (b) papilla (c) rudiment (d) **callus**
- 12) An inflammation of synovial membrane is called as
(a) infective arthiritis (b) osteoarthritis (c) **rheumatic arthiritis**
(d) mechanical arthiritis
- 13) During the contraction of muscle the ATP molecules bind with the active site of
(a) myosin filament (b) myofibrils (c) nerve endings (d) **actin filaments**
- 14) Ca ions necessary for the contraction of muscles are released from
(a) blood (b) protoplasm (c) synovial membrane
(d) **sarcoplasmic reticulum**
- 15) What is the substance that destroys the muscle protein during rigor mortis
(a) proteolytic enzymes (b) mitochondrial enzymes (c) **lysosome enzymes**
(d) esterases
- 16) The surface area of skin in our body is
(a) **$1.1 - 2.2m^2$** (b) $2.2 - 3.3m^2$ (c) $1 - 2m^2$ (d) $0.5 - 1.5m^2$
- 17) An oily substance called sebum is secreted by
(a) sweat gland (b) **sebaceous gland** (c) thyrioid gland (d) tear gland
- 18) Albinism is an extreme degree of generalized
(a) hyperpigmentation (b) **hypopigmentation** (c) failure of pigmentation
(d) perioral pigmentation
- 19) Partial albinism causes
(a) **leucoderma** (b) vitiligo (c) melanoma (d) dermatitis.
- 20) Excessive exposure to U V-rays can cause
(a) vomitting (b) redness of eyes (c) colour change (d) **skin cancer**
- 21) Rag weed plant causes allergic responses and results in
(a) photo dermatitis (b) **herpetiformis dermatitis**
(c) dermatitis artefacta (d) all the above
- 22) The amount of urea present in blood is
(a) 0.02gms/100ml (b) 0.06gms/100ml (c) **0.08gms/100ml**
(d) 0.01gms/100ml
- 23) Urea biosynthesis takes place in
(a) blood (b) liver (c) **cerebro-spinal fluid** (d) kidney
- 24) Number of ATP molecules spent to convert ammonia to urea is
(a) four (b) two (c) **three** (d) one

- 25) During glomerular filtration the malpighian body acts like a
(a) structural unit (b) biological filter (c) **biological buffer**
(d) acid-base balancer
- 26) The amount of blood supplied to the kidneys is about
(a) **20-25% of cardiac output** (b) 25-30% of cardiac output
(c) 30 -35% of cardiac output (d) 35-40% of cardiac output
- 27) Net filtration force which is responsible for the filtration in glomerulus is
(a) **25 mm Hg** (b) 50 mm Hg (c) 75 mm Hg (d) 80 mm Hg
- 28) The amount of urea reabsorbed in the urinary tubules is
(a) 5 gm (b) 17gm (c) **21gm** (d) 20gm
- 29) Area responsible for reabsorption of water, glucose, sodium phosphate and bicarbonates is
(a) glomerulus (b) **proximal convoluted tubules** (c) collecting duct
(d) descending limb of Henle's loop
- 30) The volume of water found in the glomerular filtrate is
(a) **170 lit** (b) 168.5 lit (c) 165 lit (d) 162.8 lit
- 31) In recent days insulin resistant diabetes is commonly noticed in the age group
of
(a) 10 - 15 years (b) 40 - 50 years (c) 35 - 40 years
(d) **20 - 25 years**
- 32) Which of the following is called the artificial kidney?
(a) doner kidney (b) **dializer** (c) tissue-matched kidney
(d) preserved kidney
- 33) The type of diabetes that develops due to heavy viral infection belongs to the category called
(a) Insulin dependent diabetes (b) non-insulin dependent diabetes
(c) inflammator diabetes (d) harmful diabetes
- 34) Who initially developed the vaccine for rabies in man ?
(a) Robert koch (b) Joseph Lister (c) **Louis Pasteur** (d) Stanley
- 35) Which one of the following fields paved the way for modern microbiology ?
(a) development of vaccines (b) technique of new viral strains
(c) discovery of new viral strains
(d) **development of pure culture technique**

- 36) Which one of the following statements is incorrect regarding the structure of viruses ?
- (a) Nucleic materials are covered by a protein coat, called capsid.
 - (b) The capsid is made up of capsomeres
 - (c) some animal viruses have an additional envelope
 - (d) The additional envelope is made up of glycoprotein**
- 37) Virions contain only a single copy of nucleic acid, hence they are called
- (a) incomplete viruses
 - (b) haploid viruses**
 - (c) ploidy viruses
 - (d) complete viruses
- 38) Tumour inducing viruses are called
- (a) pathogenic viruses
 - (b) oncogenic viruses**
 - (c) para viruses
 - (d) variola viruses
- 39) Which one of the following is a protozoan disease ?
- (a) African sleeping sickness**
 - (b) measles
 - (c) Cholera
 - (d) Taeniasis
- 40) Sexual reproduction of plasmodium takes place in
- (a) Liver cells of man
 - (b) RBCs of man
 - (c) plasma of man
 - (d) body of mosquito**
- 41) The pathogenic form of *Entamoeba histolytica* is
- (a) encysted spores
 - (b) vegetative trophozoite**
 - (c) merozoite
 - (d) schizont
- 42) Which one of the following is a trematode worm ?
- (a) Schistosomes**
 - (b) *Wuchereria*
 - (c) *Taenia*
 - (d) *Ascaris*
- 43) The more promising chemotherapeutic agent for treating viral diseases is
- (a) Tetracycline
 - (b) Ampicillin
 - (c) Interferon**
 - (d) Anthramycin
- 44) Which of the following can induce immunity
- (a) Bacteria
 - (b) Viruses
 - (c) Parasites
 - (d) All the above**
- 45) Skin is a/an -----
- (a) anatomical barrier**
 - (b) physiological barrier
 - (c) phagocytic barrier
 - (d) inflammatory barrier
- 46) Which among the following is anti-bacterial ?
- (a) interferon
 - (b) lysozyme**
 - (c) hormone
 - (d) protein
- 47) Which of the following is anti-viral?
- (a) lysozyme
 - (b) interferon**
 - (c) protein
 - (d) hormone

- 48) Identify the phagocytic cells from the following combinations
(a) **Macrophage and neutrophil** (b) Lymphocyte and eosinophil
(c) Macrophage and eosinophil (d) Eosinophil and neutrophil
- 49) Histamine is secreted by
(a) Epithelial cell (b) **Mast cells** (c) Red blood cells
(d) White blood cells
- 50) Humoral immunity consists of
- (a) normal cells (b) pathological cells (c) cytotoxic cells
(d) **immunoglobulin molecules**
- 51) Which type of graft is used in plastic surgery ?
(a) xenograft (b) allograft (c) **autograft** (d) isograft
- 52) MHC genes in mouse is located in
(a) Chromosome 1 (b) Chromosome 2 (c) Chromosome 4
(d) **Chromosome 6**
- 53) Which of the following is an auto immune disease ?
(a) AIDS (b) **Multiple sclerosis** (c) Cancer (d) Asthma
- 54) Which antibody characterizes the allergic reaction ?
(a) IgG (b) IgA (c) IgM (d) **IgE**
- 55) SCID is due to -----
(a) **Adenosine deaminase deficiency** (b) Glucose oxidase deficiency
(c) phosphatase deficiency (d) Lactate dehydrogenase deficiency
- 56) Which of the following causes AIDS ?
(a) Bacteria (b) Fungus (c) **Retrovirus** (d) TMV
- 57) Thymus growth occurs up to
(a) 17 years (b) **12 years** (c) 5 years (d) 30 years
- 58) Which of the following secretes immunoglobulin?
(a) T-lymphocyte (b) **B-lymphocyte** (c) Macrophage (d) Mast cells
- 59) The H-chain of immunoglobulin has a molecular weight
(a) equivalent to that of light chain (b) **Twice that of light chain**
(c) Triple the amount of light chain (d) Twice as that of dark chain
- 60) Immunoglobulins are chemically
(a) glycogens (b) **glyco-proteins** (c) glycolipids (d) Lipo-proteins

- 61) Hyper variability regions are present in -----
(a) heavy chain only (b) light chain only (c) **heavy and light**
(d) dark chain
- 62) Organ transplantation from pig to human is an example for
(a) Autograft (b) Allograft (c) ISOgraft (d) **Xenograft**
- 63) Graft between identical twins is called -----
(a) Xenograft (b) Allograft (c) Auto graft (d) **Iso graft**
- 64) In which prokaryote has voluminous genetical works been made
(a) TMV virus (b) Phage (c) **Escherichia coli** (d) coliform bacteria
- 65) Who discovered the double helix DNA model ?
(a) H.G. Khorana (b) Mendel (c) T.H.Morgan (d) **Watson and Crick**
- 66) About how many hereditary diseases in human beings had been identified ?
(a) **more than 300** (b) less than 300 (c) about 400 (d) about 100
- 67) Which of the following methods help in obtaining of information about genetic characters in man ?
(a) Biochemical test (b) Hybridization (c) **Pedigree analysis**
(d) Inbreeding
- 68) Sickle cell anaemia is due to
(a) **autosomal gene** (b) sex chromosomal gene (c) vitamin deficiency
(d) hormone imbalance
- 69) Albinism is due to
(a) **absence of melanin** (b) absence of vitamins (c) presence of melanin
(d) absence of hormone
- 70) Name the human disease due to autosomal dominant gene
(a) sickle cell anaemia (b) thalasemia (c) SCID (d) **huntington's chorea**
- 71) Idiogram means
(a) Diagrammatic representation of genes
(b) **Diagrammatic representation of chromosome**
(c) Graph showing heart defect (d) electro cardiogram
- 72) In human chromosome karyotyping the chromosomes 4 and 5 belong to group
(a) A (b) **B** (c) C (d) D
- 73) What is the name for mobile genetic elements?
(a) plasmids (b) pili (c) barr body (d) **transposons**

- 74) What is the rate of growth of human population?
(a) 10 billion per year (b) **90 billion per year** (c) 1 billion per year
(d) 80 billion per year
- 75) The present sudden acceleration of population is called as
(a) population explosion (b) population bomb (c) population trap
(d) **all the above**
- 76) Global warming is caused due to
(a) lack of rainfall (b) presence of a hole in ozone layer
(c) **human activities against nature** (d) extinction of animals and plants
- 77) The most abundant green house gas is
(a) NO_2 (b) CO_2 (c) O_3 (d) SO_2
- 78) which of the following gas destroys ozone layer faster?
(a) **chlorofluorocarbons** (b) hydrochlorofluorocarbons (c) both (a) and (b)
(d) sulphur dioxide
- 79) Which is a better method to dispose large amount of water carrying relatively small amounts of chemical wastes?
(a) land filling method (b) Deep-well injection (c) **surface impoundments**
(d) incineration
- 80) Which one of the following organisms plays a vital role in pollination of trees in tropical forest?
(a) mimic moths (b) **orchid bees** (c) Rhinoceros beetles
(d) Humming birds
- 81) Which is commonly considered as a Biologist's paradise? (or) Which of the following is a marine biosphere reserve?
(a) **Gulf of Mannar Biosphere Reserve** (b) Nilgiri Biosphere Reserve
(c) Nanda Devi (d) Great Nicobar
- 82) The amount of energy the earth receives from the sun per year is
(a) 1000 K calories (b) 10×10^{30} K calories (c) **5×10^{20} K calories**
(d) 15×10^{25} K calories
- 83) Which is considered as a future source of power, that can meet our future unlimited demand?
(a) Hydel power (b) **Hydrogen** (c) Thermal power (d) Solar power
- 84) Of the total amount of water, how much is available as fresh water?
(a) 10% (b) **3%** (c) 15% (d) 50%

- 85) Which of the following countries depend on desalinisation process for getting fresh water?
(a) Dubai (b) Oman (c) Bahrain (d) **all the above**
- 86) The breeds of cattle now available in India are
(a) 29 (b) 30 (c) **26** (d) 20
- 87) which one of the following is not a draught breed?
(a) Kangayam (b) **Khillar** (c) Kankrej (d) Hallikar
- 88) The other name for the cattle 'Sindhi' is.....
(a) Kongu (b) Nellore (c) **Red Karachi** (d) Deccan
- 89) Kangayam originated from
(a) punjab (b) coimbatore (c) karnataka (d) kathiawar
- 90) Which of the following is not an exotic breed?
(a) jersey (b) Gir (c) Brown swiss (d) Ayreshire
- 91) which one of the following is a contagious disease of the cattle?
(a) constipation (b) Milk fever (c) **Cow pox** (d) Diabetes
- 92) Feeding jaggery along with limewater is one of the first aid measure for
(a) diarrhoea (b) constipation (c) **milk-fever** (d) anthrax
- 93) Mating of closely related animals is called
(a) **out breeding** (b) Artificial insemination (c) Cross breeding
(d) Inbreeding
- 94) The milk which the following cow is characterised by high carotene content?
(a) sindhi (b) haryana (c) Gir (d) **Jersy**
- 95) For anthrax of the following symptom can be seen
(a) Swelling of udder (b) **Blood discharge from natural openings**
(c) Loss of appetite (d) Lack of chewing
- 96) The book 'Philosophie Zoologique' was published by _____
(a) Charles Darwin (b) August Weismann (c) Mc Dougall
(d) **Jean Baptiste de Lamarck**
- 97) The German scientist who segregated germplasm from somatoplasm for the first time was _____
(a) Lamarck (b) Malthus (c) **Weismann** (d) Hugo de vries

- 98) Mc Dougall supported neo-Lamarckism and proved the concept of -----
(a) Direct action of environment on organism
(b) **Learning is an acquired character**
(c) Speed of learning increased from generation to generation
(d) All the above
- 99) Through which of the following concepts did Darwin explain his theory of evolution?
(a) arrival of the fittest (b) **survival of the fittest**
(c) The differentiation of somatoplasm and germplasm
(d) genetic recombinations
- 100) The book "Process of Organic Evolution" to support modern synthetic theory of evolution was written by _____
(a) Dobzhansky (b) **G.L. Stebbins** (c) Hardy-Weinberg
(d) Hugo de Vries
- 101) The factor that enriches the genepool with new modified genes is _____
(a) **mutation** (b) somatic variation (c) decrease in chromosomes
(d) increases in cytoplasm
- 102) Artificial system of classification of plants was proposed by a
(a) **British botanist** (b) Swedish botanist (c) German botanist
(d) Indian botanist
- 103) Which of the following Classification is a sexual system of classification ?
(a) **Artificial system** (b) Natural System (c) Phylogenetic system
(d) Natural selection
- 104) The botanist who introduced binominal system is
(a) Carolus Linnaeus (b) **Gaspard Bauhin** (c) sir Joseph Dalton Hooker
(d) Adolf Engler
- 105) Genera Plantarum of Bentham and Hooker was Published in
(a) a single volume (b) two volumes (c) **three Volumes** (d) four Volumes
- 106) In Bentham and Hooker classification of plants, the present day 'orders' were referred to by them as
(a) Series (b) **Cohorts** (c) orders (d) families
- 107) Plants having flowers with free petals are placed under.....
(a) Monochlamydeae (b) Monocotyledons (c) Gamopetalae
(d) **Polypetalae**

- 108) Infraclass includes
(a) 6 Orders and 34 families (b) 4 Order and 23 families
(c) 3 Orders and 9 families (d) 5 orders and 27 families
- 109) How many families were described by Bentham and Hooker in their classification?
(a) 204 (b) 212 **(c) 202** (d) 222
- 110) In Bentham and Hooker's classification of plants, the present by "families" were referred to by them as
(a) families (b) Cohorts **(c) Orders** (d) series
- 111) Thalamiflorae includes
(a) 4 Orders and 23 families **(b) 6 Orders and 34 families**
(c) 5 Orders and 27 families (d) 3 Order and 12 families
- 112) Which one of the following series includes the epigynous flowers?
(a) Thalamiflorae (b) Disciflorae **(c) Infraclass** (d) Heteromerae
- 113) The family included under the series Unisexuales is
(a) Solanaceae **(b) Euphorbiaceae** (c) Malvaceae (d) Musaceae
- 114) Solanaceae is placed under
(a) Malvales **(b) Polemoniales** (c) Unisexuales (d) Ranales
- 115) In which of the following plants the midrib and veins are found with yellowish spines
(a) Solanum melongena (b) Datura metal **(c) Solanum xanthocarpum**
(d) Petunia hybrida
- 116) The Carpels are Obliquely placed in the members of
(a) Malvaceae **(b) Solanaceae** (c) Euphorbiaceae (d) Musaceae
- 117) Euphorbiaceae includes about
(a) 82 genera (b) 90 genera **(c) 300 genera** (d) 254 genera
- 118) Ricinus communis is a
(a) herb **(b) shrub** (c) tree (d) cladode
- 119) An example of cladode is
(a) Phyllanthus emblica (b) Ricinus communis (c) Jatropha curcas
(d) Euphorbia tirucalli
- 120) In Hevea brasiliensis, the leaves are
(a) simple **(b) trifoliately compound** (c) sessile (d) Palmately lobed

- 121) "The bird of paradise flower" refers to
(a) *Musa paradisiaca* (b) ***Strelitzia reginae*** (c) *Ravenala madagascariensis*
(d) *Heliconia* sp
- 122) The phyllotaxy in *Musa* is
(a) alternate (b) opposite (c) distichous (d) **spiral**
- 123) The number of fertile stamens in *Ravenala madagascariensis*, is
(a) three (b) four (c) five (d) **six**
- 124) *Thespesia populnea* belongs to
(a) Solanaceae (b) Euphorbiaceae (c) **Malvaceae** (d) Musaceae
- 125) Malvaceae is placed in the series
(a) **Thalamiflorae** (b) Inferae (c) Heteromerae (d) Disciflorae
- 126) Anthers are monothecous in
(a) Solanaceae (b) Euphorbiaceae (c) **Malvaceae** (d) Musaceae
- 127) In *Abelmoschus esculentus*, the fruit is
(a) drupe (b) schizocarp (c) regma (d) **loculicidal capsule**
- 128) Binomial of lady's finger is
(a) *Hibiscus cannabinus* (b) *Thespesia populnea* (c) *Gossypium barbadense*
(d) ***Abelmoschus esculentus***
- 129) The type of inflorescence in *Ravenala madagascariensis*
(a) compound cyme (b) branched spadix (c) simple raceme
(d) **compound raceme**
- 130) The change from meristematic tissue to permanent tissue is called
(a) **differentiation**. (b) self perpetuating. (c) photosynthesis.
(d) cell division
- 131) The type of tissue presents in the petioles of banana and canna, is
(a) **stellate parenchyma** (b) prosenchyma (c) aerenchyma
(d) chlorenchyma
- 132) The tissue generally present in all organs of plant is (or)----- is found in all organs of the plant.
(a) **parenchyma** (b) chlorenchyma (c) collenchyma (d) sclerenchyma
- 133) The lamellar collenchyma is seen in the hypodermis of
(a) *Datura* (b) ***Helianthus*** (c) *Ipomoea* (d) *Nicotiana*
- 134) The root hairs are produced from
(a) rhizodermis (b) trichomes (c) accessory cells (d) **trichoblasts**

- 135) The osteosclereids are seen in
(a) seed coat of crotalaria (b) **seed coat of pisum** (c) plup of pyrus
(d) petioles of banana
- 136) Bicollateral vascular bundles are seen in the members of
(a) Malvaceae (b) Musaceae (c) Solanaceae (d) **Cucurbitaceae**
- 137) The root hairs originate from,
(a) **trichoblasts** (b) endodermis (c) hypodermis (d) pericycle
- 138) The casparian strips are found in the endodermis of
(a) dicot stem (b) **dicot root** (c) monocot stem (d) dicot leaf
- 139) The passage cells are found in endodermis of
(a) dicot stem (b) monocot stem (c) **dicot root** (d) dicot leaf
- 140) The polyarch condition is found in
(a) monocot leaf (b) dicot leaf (c) dicot stem (d) **monocot root**
- 141) The inner most layer of the cortex is
(a) epidermis (b) hypodermis (c) endodermis (d) pericycle
- 142) The vascular bundle with protoxylem facing centre of the stem is
(a) exarch (b) endarch (c) tetrarch (d) polyarch
- 143) When the xylem and the phloem lie in the same radius, the vascular bundle is called
(a) **conjoint** (b) radial (c) open (d) closed
- 144) The vascular bundles are skull shaped in
(a) dicot root (b) monocot root (c) dicot stem (d) **monocot stem**
- 145) The protoxylem lacuna is present in the vascular bundles of
(a) dicot root (b) monocot root (c) dicot stem (d) **monocot stem**
- 146) Isobilateral leaf is present in
(a) **grass** (b) cucurbita (c) sunflower (d) bean
- 147) The vascular bundle in the leaf is
(a) collateral and open (b) **collateral and closed** (c) bicollateral and open
(d) collateral and exarch
- 148) The term chromosome was introduced by
(a) Bridges (b) **Waldeyer** (c) Balbiani (d) Flemming
- 149) Who had first proved that the genes are carried by the chromosome?
(a) **Bridges** (b) Waldeyer (c) Balbiani (d) Flemming

- 150) The coupling test cross ratio is
(a) 1:7:7:1 (b) **7:1:1:7** (c) 1:1:1:1 (d) 9:3:3:1
- 151) Recombination of chromosome takes place in _____ stage of prophase I of meiosis.
(a) leptotene (b) zygotene (c) **pachytene** (d) diplotene
- 152) Hugo de Vries first used the term mutation based on his observation on
(a) Sorghum (b) Neurospora (c) **Oenothera lamarckiana** (d) Cicer gigas
- 153) Biochemical mutants of _____ failed to synthesize certain amino acids
(a) Sorghum (b) **Neurospora** (c) Cicer arietinum (d) Cicer gigas
- 154) The Gametes of Drosophila melanogaster carry
(a) three chromosomes (b) **four chromosomes** (c) seven chromosomes
(d) eight chromosomes
- 155) Nullisomy is represented by
(a) $2n - 1$ (b) $2n + 1$ (c) $2n + 2$ (d) **$2n - 2$**
- 156) RNA is universally present in all organisms except in _____.
(a) TMV (b) bacteria (c) algae (d) **DNA viruses**
- 157) mRNA is about _____ of the RNA content of the cell
(a) 10 - 20% (b) 5 - 10 % (c) **3 - 5 %** (d) 20 - 30%
- 158) In bacterial cell, there are more than _____ tRNAs
(a) 200 (b) **70** (c) 300 (d) 400
- 159) Double helix DNA model was proposed by _____.
(a) **Waston and Crick** (b) O.T.Avery et al (c) Griffith (d) Stinberg
- 160) The width Of DNA molecule is
(a) 18 Å (b) **20Å** (c) 34 Å (d) 35 Å
- 161) Restriction enzymes are synthesized by
(a) **bacteria only** (b) yeast and bacteria only (c) eukaryotic cells only
(d) all kinds of cells
- 162) Each restriction enzyme cleaves a molecule only at
(a) the ends of genes (b) methyl groups (c) **nucleotide sequence**
(d) the time of DNA replication
- 163) One of the following process is employed to introduce a foreign gene into a cell
(a) electrolysis (b) **electroporation** (c) plasmid (d) ligation

- 164) The number of transgenic plants available to-day are approximately
(a) six (b) two (c) twelve (d) **fifty**
- 165) A toxic protein called delta endotoxin is insecticidal and it is produced by
(a) Escherichia coli (b) Streptomyces griseus (c) **Bacillus thuringiensis**
(d) Bacillus lactii
- 166) Pseudomonas putida is a engineered bacterium that can
(a) produce a hormone (b) produce a antibiotic (c) **digest crude oil slick**
(d) pollute the soil
- 167) The inherent potential of any living plant cell to develop into entire organism is called
(a) differentiation (b) organogenesis (c) morphogenesis (d) **totipotency**
- 168) The function of cytokinin is to increase
(a) cell elongation (b) fruit initiation (c) **cell division** (d) differentiation
- 169) By the application of tissue culture, one important product is formed
(a) **artificial synthetic seeds** (b) many seeded fruit
(c) triploid endosperm (d) induction of flowers
- 170) The two protoplasts are fused with a fusogen called
(a) **polyethylene glycol (PEG)** (b) Polyvinyl chloride (PVC)
(c) Polyethane glycol (PEG) (d) Phosphoric ethane
- 171) Somatic hybrids are produced through
(a) asexual fusion (b) **protoplasmic fusion** (c) vegetative propagation
(d) grafting
- 172) One of the following organism is a SCP
(a) Nostoc (b) Rhizobium (c) Mushroom (d) **Spirulina**
- 173) Enriched vitamin tablets are produced from the following organism for human consumption
(a) Nostoc (b) yeast (c) Mushroom (d) **Spirulina**
- 174) Photosynthesis takes place in
(a) mitochondria (b) peroxisomes (c) **chloroplasts** (d) ribosomes
- 175) During cyclic electron transport, which one of the following is produced
(a) NADPH₂ only (b) **ATP only** (c) NADH₂ only
(d) both ATP and NADPH₂
- 176) Which one of the following is a five carbon compound?
(a) fructose (b) erythrose (c) **ribose** (d) DHAP

- 177) which one of the following is a C_4 plant?
(a) rice (b) wheat (c) **sugarcane** (d) potato
- 178) The essential component for the formation of chlorophyll
(a) **Mg** (b) Fe (c) Cl (d) Mn
- 179) The pigment which is highly efficient in absorbing solar energy is
(a) phycobilins (b) **chlorophyll** (c) carotinoids (d) xanthophyll
- 180) Which of the following bacterium oxidizes ammonia to nitrate
(a) **Nitrosomonas** (b) Rhizobium (c) Closteridium (d) E.coli
- 181) Which of the following is a total parasite
(a) **Cuscuta** (b) Viscum (c) Drosera (d) Monotropa
- 182) Which of the following wavelengths of light is most effective for photosynthesis
(a) 100nm to 200nm (b) 200nm to 300nm (c) **400nm to 700nm**
(d) 700nm to 900nm
- 183) Dark respiration is the function of
(a) peroxisomes (b) **mitochondria** (c) chloroplast (d) ribosomes
- 184) The gas evolved during photosynthesis is
(a) carbondioxide (b) nitrogen (c) hydrogen (d) **oxygen**
- 185) Dark reaction is also known as
(a) krebs cycle (b) **Calvin cycle** (c) pentosephosphate pathway
(d) photorespiration
- 186) C_4 pathway is otherwise known as
(a) EMP pathway (b) **Hatch slack pathway** (c) photorespiration
(d) electron transport chain
- 187) Photorespiration is otherwise called as
(a) **C_2 cycle** (b) C_3 cycle (c) C_4 cycle (d) C_5 cycle
- 188) An example for insectivorous plant is
(a) **Drosera** (b) Viscum (c) Monotropa (d) vanda
- 189) Which of the following is regarded as primary pigment?
(a) carotenoid (b) Xanthophyll (c) **Chlorophyll 'a'** (d) Chlorophyll 'b'
- 190) The dark reactions of photosynthesis were discovered by
(a) Embden and Meyer (b) **Melvin Calvin** (c) Krebs (d) Parnas
- 191) Which of the following is a 5C compound ?
(a) Glucose (b) Fructose (c) phosphoglyceric acid (d) **RuBP**

- 192) In C_3 plants light reactions and dark reactions occur in
(a) bundle sheath cells (b) **mesophyll cells** (c) epidermal cells
(d) vascular cells
- 193) In C_3 pathway acceptor molecule of CO_2 is
(a) phosphoenol pyruvate (b) **RuBP** (c) PGA (d) DHAP
- 194) Which of the following is not a C_4 plant?
(a) Maize (b) Tribulus (c) Amaranthus (d) **Wheat**
- 195) Vanda plant is a/an
(a) total parasite (b) partial parasite (c) **epiphyte** (d) saprophyte
- 196) The reducing power produced in the light reaction is
(a) $NADP^+$ (b) ATP (c) ADP (d) **$NADPH_2$**
- 197) Which of the following is not accessory pigments?
(a) phycobilins (b) **chlorophylls** (c) Carotenoids (d) Xanthophylls
- 198) The photosynthetic pigments are located in
(a) Cristae (b) Cisternae (c) **thylakoid** (d) stroma
- 199) Which of the following is the common respiratory substrate?
(a) proteins (b) Lipids (c) **carbohydrates** (d) vitamins
- 200) The number of high energy terminal bonds present in ATP is
(a) one (b) **two** (c) three (d) four
- 201) The first step in aerobic respiration is
(a) **glycolysis** (b) krebs cycle (c) terminal oxidation
(d) cyclic photophosphorylation
- 202) Glucose is phosphorylated to glucose -6- phosphate by the enzyme
(a) aldolase (b) enolase (c) pyruvic kinase (d) **hexokinase**
- 203) Cisaconitic acid is converted into isocitric acid by the addition of a molecule of water. This reaction is catalyzed by
(a) citric acid synthetase (b) fumarase (c) malic dehydrogenase
(d) **aconitase**
- 204) Complete oxidation of the one molecule of glucose yields
(a) **38 ATP** (b) 36 ATP (c) 35 ATP (d) 2 ATP
- 205) Oxidative decarboxylation of pyruvic acid is catalysed by
(a) **pyruvic dehydrogenase** (b) pyruvic kinase (c) pyruvic mutase
(d) pyruvic isomerase

- 206) α -ketoglutaric acid is a _____ carbon compound
(a) two (b) three (c) four (d) **five**
- 207) Glucose is phosphorylated to glucose -6- phosphate by
(a) aldolase (b) kinase (c) mutase (d) **hexokinase**
- 208) Respiratory quotient of glucose is
(a) zero (b) **unity** (c) more than one (d) less than one
- 209) One molecule of $FADH_2$ on oxidation yields.
(a) one ATP (b) **two ATP** (c) three ATP (d) four ATP
- 210) One molecule of $NADH_2$ on oxidation yields.
(a) one ATP (b) two ATP (c) **three ATP** (d) four ATP
- 211) Formation of ATP during electron transport chain is known as
(a) dephosphorylation (b) photophosphorylation
(c) **oxidative phosphorylation** (d) substrate level phosphorylation
- 212) Which of the following is referred to as EMP?
(a) **Glycolysis** (b) krebs cycle (c) Electron transport chain
(d) pentose phosphate pathway
- 213) The total amount of energy released from one molecule of glucose on oxidation is about
(a) 1600kJ (b) 2300kJ (c) 2500kJ (d) **2900kJ**
- 214) Which of the following is a 5C compound?
(a) phosphoglyceraldehyde (b) Erythrose phosphate
(c) **Xylulose phosphate** (d) Sedoheptulose phosphate
- 215) Which one of the following plant hormones was first discovered?
(a) **Auxin** (b) Gibberellin (c) Cytokinin (d) Ethylene
- 216) An example for synthetic auxin is
(a) IAA (b) PAA (c) ABA (d) **NAA**
- 217) Apical dominance is due to
(a) ethylene (b) **auxin** (c) gibberellin (d) cytokinin
- 218) Bakanae disease in paddy is caused by
(a) abscissic acid (b) phenyl acetic acid (c) naphthelene acetic acid
(d) **gibberellic acid**
- 219) In sigmoid curve the rapid growth phase is designated as
(a) lag phase (b) **log phase** (c) dormant phase (d) steady state phase

220) Auxin prevents

- (a) apical dominance (b) ageing process (c) parthenocarpy (d) **abscission**

221) "Foolish seedling" disease of rice is caused by

- (a) auxin (b) **gibberellins** (c) cytokinin (d) abscisic acid

222) closure of stomata is caused by

- (a) auxin (b) gibberellins (c) cytokinin (d) **abscisic acid**

223) The chemical used in the field to eradicate weeds is

- (a) **2, 4-D** (b) IAA (c) ABA (d) urea

224) Abscission is prevented by

- (a) **Auxin** (b) Gibberellin (c) Cytokinin (d) Ethylene

225) Which of the following is a gaseous hormone?

- (a) Kinetin (b) Zeatin (c) Auxin (d) **Ethylene**

226) Which of the following is natural auxin found in higher plants?

- (a) **I.A.A.** (b) 2,4-D (c) GA (d) Zeatin

227) The response of a plant to relative lengths of light and dark periods is known as

- (a) vernalization (b) photorespiration (c) photosynthesis
(d) **photoperiodism**

228) Photoperiodic response in flowering was first observed in

- (a) Wheat (b) **Maryland Mammoth** (c) Oats (d) Chrysanthemum

229) Which of the following is a short day plant?

- (a) wheat (b) **tobacco** (c) sunflower (d) maize

230) Which of the following is a long day plant?

- (a) tobacco (b) sunflower (c) maize (d) **wheat**

231) Fructose 1,6-bisphosphate is cleaved to two molecules of 3 carbon compounds by

- (a) **aldolase** (b) enolase (c) pyruvic kinase (d) hexokinase

232) Which pathogen causes the blast disease of rice?

- (a) Cercospora personata (b) **Pyricularia oryzae** (c) Xanthomonas citri
(d) Tungro virus

233) What is the collateral host plant of Pyricularia oryzae?

- (a) Oryza sativa (b) **Digitaria marginata** (c) Arachis hypogea
(d) Citrus plant

234) Which pathogen causes Tikka disease of groundnut?

- (a) **Cercospora personata** (b) *Pyricularia oryzae* (c) *Xanthomonas citri*
(d) Tungro virus

235) Acalyphine is extracted from

- (a) **Acalypha indica** (b) *Aegle marmelos* (c) *Cissus quadrangularis*
(d) *Mimosa pudica*

236) Binomial of 'vilvam' is

- (a) *Acalypha indica* (b) ***Aegle marmelos*** (c) *Cissus quadrangularis*
(d) *Mimosa pudica*

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