

used for Tumbling very

(Total No. of printed pages : 23)

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

(CPG-EE-2017)

Subject : LIFE SCIENCE

Handwritten signature

Code

A

Sr. No. **10045**

SET-"A"

Handwritten signatures

Time : 1½ Hours

Total Questions : 100

Max. Marks : 100

Roll No. _____ (in figure)

G. Srinivas (in words)

Name : _____

Date of Birth : _____

Father's Name : _____

Mother's Name : _____

Date of Examination : _____

(Signature of the candidate)

(Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/ INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. All questions are compulsory and carry equal marks. The candidates are required to attempt all questions.
2. The candidates must return the Question book-let as well as OMR answer-sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / misbehaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. In case there is any discrepancy in any question(s) in the Question Booklet, the same may be brought to the notice of the Controller of Examinations in writing **within two hours** after the test is over. No such complaint(s) will be entertained thereafter.
4. The candidate **MUST NOT** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question book-let itself. Answers **MUST NOT** be ticked in the Question book-let.
5. Use only **Black or Blue BALL POINT PEN** of good quality in the OMR Answer-Sheet.
6. There will be **Negative** marking. Each correct answer will be awarded one full mark and each incorrect answer will be negatively marked for which the candidate will get ¼ discredit. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
7. BEFORE ANSWERING THE QUESTIONS, THE CANDIDATES SHOULD ENSURE THAT THEY HAVE BEEN SUPPLIED CORRECT AND COMPLETE BOOK-LET. COMPLAINTS, IF ANY, REGARDING MISPRINTING ETC. WILL NOT BE ENTERTAINED 30 MINUTES AFTER STARTING OF THE EXAMINATION.



Question No.	Questions
1.	Pleiotropy occurs when a gene has (1) Complementary gene elsewhere (2) A small effect on one trait (3) Reversible effects on the phenotype, depending on age (4) Many effects on the phenotype
2.	Mendelian recombinations are due to (1) Linkage (2) Modification (3) Independent assortment of characters (4) Mutations
3.	Kappa particles are present in (1) Plastids (2) Mitochondria (3) Plasmids (4) Cytoplasm
4.	Chimera is produced due to (1) Somatic mutations (2) Reverse mutations (3) Lethal mutations (4) Recombination
5.	Extra nuclear inheritance is a consequence of presence of genes in (1) Mitochondria and chloroplasts (2) Endoplasmic reticulum and mitochondria (3) Ribosomes and chloroplast (4) Lysosomes and ribosomes

Question No.	Questions
6.	The formation of polyribosomes from ribosomes is done in the presence of (1) Na ⁺ ions (2) K ⁺ ions (3) Ca ²⁺ ions (4) Mg ²⁺ ions
7.	The person suffering from albinism lacks the enzyme (1) Tyrosinase (2) Phenylalanine hydroxylase (3) Peptidase (4) Ribozyme
8.	Fraternal twins are also known as (1) Non-identical twins (2) Identical twins (3) Maternal twins (4) None of these
9.	In <i>E. coli</i> , during lactose metabolism repressor binds to (1) Regulator gene (2) Operator gene (3) Structural gene (4) Promoter gene
10.	Alkaptonuria, phenylketonuria and Gaucher's diseases are (1) Defects in amino acid metabolism (2) Sex-linked recessive disorders (3) Autosomal recessive disorders (4) Defects in lipid metabolism

Question No.	Questions
11.	Lysosomes are rich in (1) Nucleic acid (2) Hydrolytic enzymes (3) Carbohydrates (4) Hormones
12.	In chloroplasts, chlorophyll is present in (1) Outer membrane (2) Inner membrane (3) Thylakoids (4) Stroma
13.	Cyclin Dependent kinases (1) Act as mitotic poisons (2) Causes disassembly of the microtubules (3) Control various phases of cell cycle (4) Arrest cell division due to non-formation of spindle
14.	The beginning of which stage of prophase is marked by complete terminalization of chiasmata and inhibition of RNA synthesis (1) Pachytene (2) Diplotene (3) Diakinesis (4) Zygotene
15.	Which set is not the antigen presenting cells ? (1) Monocytes and histocytes (2) Histocytes and lymphocytes (3) Macrophages and Langerhans cells of skin (4) None of these

Question No.	Questions
16.	<p>Oncogenes are the cancer causing genes in the cells but they do not express usually because of the presence of</p> <p>(1) Proto-oncogenes (2) Tumour promoters (3) Tumour suppressor genes (4) Transposons or jumping genes</p>
17.	<p>Necrosis in crops is due to the deficiency of</p> <p>(1) Ca, K, S and Mo (2) N, K, S and Mo (3) N, S, Fe and Zn (4) Mg, S, Mn and Ca</p>
18.	<p>Stomatal opening is affected by</p> <p>(1) Nitrogen concentration, Carbon dioxide concentration and light (2) Carbon dioxide concentration, temperature and light (3) Nitrogen concentration, light and temperature (4) Carbon dioxide concentration, nitrogen concentration and temperature</p>
19.	<p>Phototropic curvature is the result of uneven distribution of</p> <p>(1) Auxin (2) Gibberellin (3) Phytochrome (4) Cytokinins</p>
20.	<p>In C3 plants, the first stable product of photosynthesis during dark reaction is</p> <p>(1) Malic acid (2) Oxaloacetic acid (3) 3-phosphoglyceric acid (4) Phosphoglyceraldehyde</p>

Question No.	Questions
21.	<p>The translocation of organic solutes in sieve tube members is supported by</p> <ul style="list-style-type: none">(1) Cytoplasmic streaming(2) Root pressure and transpiration pull(3) P-proteins(4) Mass flow involving a carrier and ATP
22.	<p>Which of the following pair is mismatched ?</p> <ul style="list-style-type: none">(1) <i>Triticumaestivum</i>– LDP(2) <i>Zea mays</i> – DNP(3) <i>Glycine max</i> – SDP(4) <i>Raphanus sativus</i> – SLDP
23.	<p>Cytokinins are said to be anti-aging hormones because they delay the senescence by</p> <ul style="list-style-type: none">(1) Controlling mobilization of resources(2) Controlling protein synthesis(3) Decreased morphogenesis and high respiration(4) Both (1) and (2) .
24.	<p>The cofactor of nitrate reductase activity is</p> <ul style="list-style-type: none">(1) Molybdenum(2) Copper(3) Iron(4) Boron
25.	<p>Connecting link between respiration (TCA cycle) and protein synthesis is</p> <ul style="list-style-type: none">(1) Citric acid(2) Alpha keto glutaric acid(3) Succinic acid(4) Fumaric acid

Question No.	Questions
26.	Growth in plant height due to the activity of apical and intercalary meristems is called (1) Steady growth (2) Stationary growth (3) Primary growth (4) Secondary growth
27.	Duodenum has characteristic Brunner's gland which secretes two hormones called (1) Kinase and estrogen (2) Secretin and cholecystokinin (3) Prolactin and parathormone (4) Estradiol and progesterone
28.	Botulism caused by <i>Clostridium botulinum</i> affects (1) Lymph glands (2) Neuromuscular junction (3) Spleen (4) Intestine
29.	In the resting state of the neural membrane, diffusion due to concentration gradients, if allowed, would drive (1) K^+ into the cell (2) K^+ and Na^+ out of the cell (3) Na^+ into the cell (4) Na^+ out of the cell
30.	Which of the following is not a second messenger in hormone action ? (1) cAMP (2) cGMP (3) Calcium (4) Sodium

Question No.	Questions
31.	<p>If mammalian ovum fails to get fertilized, which one of the following is unlikely ?</p> <p>(1) Corpus luteum will disintegrate (2) Progesterone secretion rapidly declines (3) Estrogen secretion further decreases (4) Primary follicle starts developing</p>
32.	<p>Adrenaline is released from the adrenal medulla under stress condition. Which of the following can't be taken as a character of it ?</p> <p>(1) Elevates blood glucose by converting liver glycogen to glucose (2) Acceleration of rate and force of heart beat (3) Increase in breakdown of lipids (4) Constriction in arterioles of skeletal muscle</p>
33.	<p>Which of the following enzyme helps sperms to penetrate zona pellucida?</p> <p>(1) Hyaluronidase (2) Neuraminidase (3) Acrosin (4) Corona penetrating enzyme</p>
34.	<p>Arginase enzyme will be operating at which step of the ornithine cycle ?</p> <p>(1) Ornithine – Urea (2) Arginine – Ornithine (3) Ornithine – Citrulline (4) Citrulline – Arginosuccinate</p>
35.	<p>Which of the following cations is required for the conversion of prothrombin into active thrombin by thromboplastin ?</p> <p>(1) Ca^{2+} (2) Fe^{2+} (3) Mg^{2+} (4) Mn^{2+}</p>

Question No.	Questions
36.	Which of the following is correctly matched ? (1) Vitamin E – Tocopherol (2) Vitamin D – Riboflavin (3) Vitamin B – Calciferol (4) Vitamin A – Thiamine
37.	Muscle fatigue sets in due to non-availability of (1) Calcium (2) ATP (3) Actin binding sites (4) Mg cofactor
38.	Random genetic drift in a population probably results from (1) Highly genetic variable individuals (2) Interbreeding within a population (3) Constant low mutation rate (4) Large population size
39.	Ecophenes or habitat forms are also called (1) Ecads (2) Ecotypes (3) Ecospecies (4) Ecotones
40.	Which of the following statement is not correct about energy flow in an ecosystem ? (1) Pyramid of energy is always right (2) Energy flow is unidirectional (3) Energy flow is cyclic (4) Ecologically efficiency is generally 10%

Question No.	Questions
41.	Climax community is in state of (1) Non-equilibrium (2) Equilibrium (3) Disorder (4) Constant change
42.	Which of the following gases are mainly responsible for the atmospheric greenhouse effect in the earth's atmosphere ? (1) Nitrogen and carbon dioxide (2) Water vapor and carbon dioxide (3) Ozone and oxygen (4) Oxygen and nitrogen
43.	Reserpine drug is extracted from (1) <i>Brassica oleracea</i> (2) <i>Atropa belladonna</i> (3) <i>Rauwolfia serpentine</i> (4) <i>Digitalis purpurea</i>
44.	Clove (<i>Syzygium aromaticum</i>) is the (1) Thin pod like capsules (2) Dried bark (3) Dried unopened flower buds (4) Dried stigma and top of the styles
45.	Flax fibers are obtained from (1) <i>Cannabis sativa</i> (2) <i>Crotolaria juncea</i> (3) <i>Cocos nucifera</i> (4) <i>Linum usitissimum</i>

Question No.	Questions
46.	Quiescent center is present in (1) Root apex (2) Shoot apex (3) Leaf tip (4) Floral meristem
47.	In which type of tapetum the protoplast of tapetal cells fuse and surround the developing microspore in the anther ? (1) Glandular tapetum (2) Secretory tapetum (3) Amoeboid tapetum (4) Integumentary tapetum
48.	Select a correct match (1) Geitonogamy – <i>Vallisneria</i> (2) Heterostyly – <i>Primula</i> (3) Exothecium – <i>Hibiscus</i> (4) Anemophily – <i>Adansonia</i>
49.	Which type of bonding is responsible for secondary structures of proteins? (1) Disulphide bridges between cysteine residues (2) Hydrogen bonding between the C = O and N - H group of peptide bond (3) Peptide bond between amino acids (4) Salt bridges between charged side chain of amino acid
50.	Which of the following shows the last diploid stage in the life cycle of angiosperms ? (1) Microspore mother cell (2) Zygote (3) Central cell (4) Pollen grain

Question No.	Questions
51.	Cyathium inflorescences is found in (1) <i>Croton</i> (2) <i>Ficus</i> (3) <i>Euphorbia</i> (4) <i>Ricinus</i>
52.	Bicarpellary gynoecium and oblique ovary occurs in (1) Mustard (2) Banana (3) Pea (4) Brinjal
53.	Which of the following botanist is associated with phylogenetic classification ? (1) Bentham and Hooker (2) Theophrastus (3) Linnaeus (4) Engler and Prantl
54.	The taxonomic unit 'phylum' in the classification of animals is equivalent to which hierarchical level in classification of plants ? (1) Class (2) Order (3) Division (4) Family
55.	Ciliated sperms are found in (1) <i>Cycas</i> (2) <i>Pinus</i> (3) <i>Gnetum</i> (4) <i>Ginkgo</i>

Question No.	Questions
56.	<p>Which of the following is not generally found in gymnosperms ?</p> <ul style="list-style-type: none">(1) Vessels(2) Tracheids(3) Xylem parenchyma(4) Sieve cells
57.	<p>The pollen bearing organs of <i>Lyginopteris</i> belong to</p> <ul style="list-style-type: none">(1) Cycadeoidea(2) Crossotheca(3) Calymmatotheca(4) Williamsonia
58.	<p>The wood of <i>Pinus</i> is</p> <ul style="list-style-type: none">(1) Manoxylic(2) Diploxylic(3) Polyxylic(4) Pycnoxylic
59.	<p>Which statement is true for bacterial transduction ?</p> <ul style="list-style-type: none">(1) Transfer of some genes from one bacteria to another bacteria through virus(2) Transfer of some genes from one bacterium to another bacterium by establishing contact(3) Bacteria obtained its DNA directly from mother cell(4) Bacteria obtained DNA from other external source

Question No.	Questions
60.	<p>In a red algae showing triphasic life cycle, the phase of meiosis is</p> <ol style="list-style-type: none">(1) Gametophyte(2) Carposporophyte(3) Chantrelle stage(4) Plaque
61.	<p>Puccinia forms Uredia and</p> <ol style="list-style-type: none">(1) Telia on wheat leaves(2) Aecia on barberry leaves(3) Pycnia on barberry leaves(4) Aecia on wheat leaves
62.	<p>Which one of the following statements is true for viruses ?</p> <ol style="list-style-type: none">(1) Viruses possess their own metabolic system(2) All viruses contain both RNA and DNA(3) Viruses are obligate parasites(4) Nucleic acid of viruses is known as capsid
63.	<p>In bryophytes</p> <ol style="list-style-type: none">(1) Both generations are independent(2) Gametophytes are dependent upon sporophytes(3) Sporophytes complete their life cycle(4) Sporophytes are dependent upon gametophytes

Question No.	Questions
64.	Gemma cups are characteristics of (1) <i>Marchantia</i> (2) <i>Anthoceros</i> (3) <i>Polytrichum</i> (4) <i>Riccia</i>
65.	Heterospory is the production of (1) Diploid and tetraploid spores (2) Sexual and asexual spores (3) Large and small spores (4) Haploid and diploid spores
66.	The stele in which xylem forms several plates is (1) Haplostele (2) Actinostele (3) Plectostele (4) Polycyclic
67.	<i>Selaginella</i> belongs to division (1) Lycopsida (2) Pteropsida (3) Psilopsida (4) Sphenopsida

Question No.	Questions
68.	Chorion is (1) Secondary envelop of mammalian egg (2) Primary egg membrane of amphibian (3) Secondary egg membrane of insect egg (4) Secondary egg membrane of bird egg
69.	Cleavage of chick egg is (1) Holoblastic, equal (2) Discoidal meroblastic cleavage (3) Superficial meroblastic cleavage (4) Holoblastic unequal cleavage
70.	What is true about cleavage in the fertilized egg in humans ? (1) It starts while the egg is in fallopian tube (2) It starts when the egg reaches uterus (3) It is meroblastic (4) It is identical to the normal mitosis
71.	Which one of the following phyla is correctly matched with its two general characteristics ? (1) Mollusca – Normally oviparous and development through a trochophore or veliger larva (2) Arthropoda – Body divided into head, thorax and abdomen and respiration by tracheae (3) Chordata – Notochord at some stage and separate anal and urinary opening to the outside (4) Echinodermata – Pentamerous radial symmetry and mostly internal fertilization

Question No.	Questions
72.	Which one of the following is not a characterisitic of phylum Annelida ? (1) Ventral nerve chord (2) Closed circulatory system (3) Segmentation (4) Pseudocoelom
73.	The formation of canal system in sponges is due to (1) Folding of inner wall (2) Gastro - vascular system (3) Reproduction (4) Porous walls
74.	Which of the following structure is related to formation of middle layer of spermatophore in periplaneta ? (1) Utriculi majores (2) Utriculi breviores (3) Ejaculatory duct (4) Conglobate gland
75.	Earthworm has no skeleton but during burrowing, the anterior end becomes turgid and acts as hydraulic skeleton. It is due to (1) Setae (2) Coelomic fluid (3) Blood (4) Gut peristalsis

Question No.	Questions
76.	Larvae of <i>Herdmania</i> is called (1) Bipinnaria (2) Auricularia (3) Tadpole (4) Doliolaria
77.	Poison glands of poisonous snake is a modified (1) Teeth (2) Salivary glands (3) Tongue (4) Mouth
78.	In frog, the heart has (1) One auricle and two ventricles (2) One auricle and one ventricle (3) Two auricles and one ventricle (4) Two auricles and two ventricles
79.	Which of the following keeps postpatagium stretched during flight in pigeon ? (1) Tensor longus (2) Tensor brevis (3) Tensor posterius (4) Tensor accessorius

Question No.	Questions
80.	<p>The number of classes in subphylum Cephalochordata is</p> <p>(1) One (2) Two (3) Three (4) Four</p>
81.	<p>Example of Cyclostomes is</p> <p>(1) <i>Pteromyzon</i> (2) <i>Ascidia</i> (3) <i>Amphioxus</i> (4) <i>Narcine</i></p>
82.	<p>Adaptive radiation refers to</p> <p>(1) Evolution of different species from a common ancestor (2) Migration of member of a species to different geographical areas (3) Power of adaptation in an individual to a variety of environments (4) Adaptation due to geographical isolation</p>
83.	<p>In rats, integument blood vessels are present in</p> <p>(1) Stratum (2) Stratum granulosum (3) Dermis (4) Both (2) and (3)</p>
84.	<p>Blocking action of an enzyme through blocking its active sites is</p> <p>(1) Allosteric inhibition (2) Feedback inhibition (3) Competitive inhibition (4) Non-competitive inhibition</p>

Question No.	Questions
85.	<p>Which of the following enzymes acts in pentose phosphate pathway ?</p> <ol style="list-style-type: none">(1) 6 – phospho gluconate dehydrogenase(2) Pyruvate kinase(3) Glycogen phosphorylase(4) Phospho fructokinase 1
86.	<p>According to the induced-fit hypothesis</p> <ol style="list-style-type: none">(1) Binding of the substrate is an energy requiring process(2) Competitive inhibitor can out compete the substrate for the active site(3) Binding of the substrate changes the shape of the enzyme slightly and can stress or bend in substrate bonds(4) The active site creates a micro environment ideal for the reaction
87.	<p>Specificity of the enzyme depends upon</p> <ol style="list-style-type: none">(1) Active site(2) Linear sequence(3) K_m(4) Turn over numbers
88.	<p>During which stage in the complete oxidation of glucose is the greatest number of ATP molecules formed from ADP ?</p> <ol style="list-style-type: none">(1) Glycolysis(2) Kreb's cycle(3) Conversion of pyruvic acid to acetyl CoA(4) Electron transport chain

Question No.	Questions
89.	To fix one molecule of nitrogen (1) 6 ATP molecules are required (2) 12 ATP molecules are required (3) 16 ATP molecules are required (4) 20 ATP molecules are required
90.	Leghaemoglobin creates (1) Anaerobic condition for optimum activity of nitrogenase (2) Aerobic condition for optimum activity of nitrogenase (3) Required oxygen concentration for optimum activity of nitrogenase (4) Suitable environment for nodule formation
91.	The key enzyme in the regulation of fatty acid synthesis is (1) Acetyl CoA Carboxylase (2) AMP activated protein kinase (3) Protein phosphatase (4) None of the above
92.	Which of the following statement best describes the beta oxidation of fatty acids ? (1) One acetyl CoA is produced in each turn of beta oxidation spiral (2) Beta oxidation of fatty acid is an extra mitochondrial process (3) The enzymes are present as multienzyme complex (4) The intermediates are carried by Acyl carrier proteins

Question No.	Questions
93.	<p>How is Bt toxin known to kill the target insects in protection of cotton plants ?</p> <ol style="list-style-type: none">(1) Midgut cell lysis and swelling(2) Paralysis and loss of coordination(3) Formation of abnormal proteins(4) Brain death
94.	<p>Restriction endonucleases</p> <ol style="list-style-type: none">(1) Synthesizes DNA(2) Cuts the DNA molecule randomly(3) Cuts the DNA molecule at specific sites(4) Restricts the synthesis of DNA inside the nucleus
95.	<p>The first genetically modified non-human primate is</p> <ol style="list-style-type: none">(1) Frosty(2) ANDi(3) Prometea(4) Dolly
96.	<p>ELISA assay</p> <ol style="list-style-type: none">(1) Uses complement mediated cell lysis(2) Uses a radio labeled second antibody(3) Involves addition of substrate which is converted into colored end product(4) Requires red blood cells

Question No.	Questions
97.	<p>PCR proceeds in three distinct steps governed by temperature, they are in order of</p> <ol style="list-style-type: none"> (1) Denaturation, Annealing, Synthesis (2) Synthesis, Annealing, Denaturation (3) Annealing, Synthesis, Denaturation (4) Denaturation, Synthesis, Annealing
98.	<p>Integrated Pest Management aims at</p> <ol style="list-style-type: none"> (1) Keeping pest population below injurious level (2) Increasing natural enemies of the pest (3) Strengthening the host (4) Billing the pests
99.	<p>Cotton jassid can be controlled by</p> <ol style="list-style-type: none"> (1) DDT (2) Aldrex (3) Copper Sulphide (4) None of these
100.	<p>Three carp fishes <i>Catla</i>, <i>Labeo</i> and <i>Cirrhina</i> can be grown together in the same pond more economically as they show</p> <ol style="list-style-type: none"> (1) Positive interactions (2) Commensalism (3) Symbiosis (4) No competition for food

used for Jumping wing

(Total No. of printed pages : 23)

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

(CPG-EE-2017)

Subject : LIFE SCIENCE

Muders Ho. Main

Habib

Sr. No. 10018

SET-"A"

Code

B

Time : 1½ Hours

Total Questions : 100

Max. Marks : 100

Roll No. _____ (in figure)

_____ (in words)

Name : _____

Date of Birth : _____

Father's Name : _____

Mother's Name : _____

Date of Examination : _____

(Signature of the candidate)

(Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/ INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. All questions are compulsory and carry equal marks. The candidates are required to attempt all questions.
2. The candidates must return the Question book-let as well as OMR answer-sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / misbehaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. In case there is any discrepancy in any question(s) in the Question Booklet, the same may be brought to the notice of the Controller of Examinations in writing **within two hours** after the test is over. No such complaint(s) will be entertained thereafter.
4. The candidate **MUST NOT** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question book-let itself. Answers **MUST NOT** be ticked in the Question book-let.
5. Use only **Black or Blue BALL POINT PEN** of good quality in the OMR Answer-Sheet.
6. There will be **Negative marking**. Each correct answer will be awarded one full mark and each incorrect answer will be negatively marked for which the candidate will get ¼ discredit. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
7. BEFORE ANSWERING THE QUESTIONS, THE CANDIDATES SHOULD ENSURE THAT THEY HAVE BEEN SUPPLIED CORRECT AND COMPLETE BOOK-LET. COMPLAINTS, IF ANY, REGARDING MISPRINTING ETC. WILL NOT BE ENTERTAINED 30 MINUTES AFTER STARTING OF THE EXAMINATION.



Question No.	Questions
1.	Climax community is in state of (1) Non-equilibrium (2) Equilibrium (3) Disorder (4) Constant change
2.	Which of the following gases are mainly responsible for the atmospheric greenhouse effect in the earth's atmosphere ? (1) Nitrogen and carbon dioxide (2) Water vapor and carbon dioxide (3) Ozone and oxygen (4) Oxygen and nitrogen
3.	Reserpine drug is extracted from (1) <i>Brassica oleracea</i> (2) <i>Atropa belladonna</i> (3) <i>Rauwolfia serpentine</i> (4) <i>Digitalis purpurea</i>
4.	Clove (<i>Syzygium aromaticum</i>) is the (1) Thin pod like capsules (2) Dried bark (3) Dried unopened flower buds (4) Dried stigma and top of the styles
5.	Flax fibers are obtained from (1) <i>Cannabis sativa</i> (2) <i>Crotolaria juncea</i> (3) <i>Cocos nucifera</i> (4) <i>Linum usitissimum</i>

Question No.	Questions
6.	Quiescent center is present in (1) Root apex (2) Shoot apex (3) Leaf tip (4) Floral meristem
7.	In which type of tapetum the protoplast of tapetal cells fuse and surround the developing microspore in the anther ? (1) Glandular tapetum (2) Secretory tapetum (3) Amoeboid tapetum (4) Integumentary tapetum
8.	Select a correct match (1) Geitonogamy – <i>Vallisneria</i> (2) Heterostyly – <i>Primula</i> (3) Exothecium – <i>Hibiscus</i> (4) Anemophily – <i>Adansonia</i>
9.	Which type of bonding is responsible for secondary structures of proteins? (1) Disulphide bridges between cysteine residues (2) Hydrogen bonding between the C = O and N - H group of peptide bond (3) Peptide bond between amino acids (4) Salt bridges between charged side chain of amino acid
10.	Which of the following shows the last diploid stage in the life cycle of angiosperms ? (1) Microspore mother cell (2) Zygote (3) Central cell (4) Pollen grain

Question No.	Questions
16.	Growth in plant height due to the activity of apical and intercalary meristems is called (1) Steady growth (2) Stationary growth (3) Primary growth (4) Secondary growth
17.	Duodenum has characteristic Brunner's gland which secretes two hormones called (1) Kinase and estrogen (2) Secretin and cholecystokinin (3) Prolactin and parathormone (4) Estradiol and progesterone
18.	Botulism caused by <i>Clostridium botulinum</i> affects (1) Lymph glands (2) Neuromuscular junction (3) Spleen (4) Intestine
19.	In the resting state of the neural membrane, diffusion due to concentration gradients, if allowed, would drive (1) K^+ into the cell (2) K^+ and Na^+ out of the cell (3) Na^+ into the cell (4) Na^+ out of the cell
20.	Which of the following is not a second messenger in hormone action ? (1) cAMP (2) cGMP (3) Calcium (4) Sodium

Question No.	Questions
21.	Pleiotropy occurs when a gene has (1) Complementary gene elsewhere (2) A small effect on one trait (3) Reversible effects on the phenotype, depending on age (4) Many effects on the phenotype
22.	Mendelian recombinations are due to (1) Linkage (2) Modification (3) Independent assortment of characters (4) Mutations
23.	Kappa particles are present in (1) Plastids (2) Mitochondria (3) Plasmids (4) Cytoplasm
24.	Chimera is produced due to (1) Somatic mutations (2) Reverse mutations (3) Lethal mutations (4) Recombination
25.	Extra nuclear inheritance is a consequence of presence of genes in (1) Mitochondria and chloroplasts (2) Endoplasmic reticulum and mitochondria (3) Ribosomes and chloroplast (4) Lysosomes and ribosomes

Question No.	Questions
26.	<p>The formation of polyribosomes from ribosomes is done in the presence of</p> <p>(1) Na⁺ ions (2) K⁺ ions (3) Ca²⁺ ions (4) Mg²⁺ ions</p>
27.	<p>The person suffering from albinism lacks the enzyme</p> <p>(1) Tyrosinase (2) Phenylalanine hydroxylase (3) Peptidase (4) Ribozyme</p>
28.	<p>Fraternal twins are also known as</p> <p>(1) Non-identical twins (2) Identical twins (3) Maternal twins (4) None of these</p>
29.	<p>In <i>E. coli</i>, during lactose metabolism repressor binds to</p> <p>(1) Regulator gene (2) Operator gene (3) Structural gene (4) Promoter gene</p>
30.	<p>Alkaptonuria, phenylketonuria and Gaucher's diseases are</p> <p>(1) Defects in amino acid metabolism (2) Sex-linked recessive disorders (3) Autosomal recessive disorders (4) Defects in lipid metabolism</p>

Question No.	Questions
31.	<p>The key enzyme in the regulation of fatty acid synthesis is</p> <ol style="list-style-type: none">(1) Acetyl CoA Carboxylase(2) AMP activated protein kinase(3) Protein phosphatase(4) None of the above
32.	<p>Which of the following statement best describes the beta oxidation of fatty acids ?</p> <ol style="list-style-type: none">(1) One acetyl CoA is produced in each turn of beta oxidation spiral(2) Beta oxidation of fatty acid is an extra mitochondrial process(3) The enzymes are present as multienzyme complex(4) The intermediates are carried by Acyl carrier proteins
33.	<p>How is Bt toxin known to kill the target insects in protection of cotton plants ?</p> <ol style="list-style-type: none">(1) Midgut cell lysis and swelling(2) Paralysis and loss of coordination(3) Formation of abnormal proteins(4) Brain death
34.	<p>Restriction endonucleases</p> <ol style="list-style-type: none">(1) Synthesizes DNA(2) Cuts the DNA molecule randomly(3) Cuts the DNA molecule at specific sites(4) Restricts the synthesis of DNA inside the nucleus

Question No.	Questions
35.	The first genetically modified non-human primate is (1) Frosty (2) ANDi (3) Prometea (4) Dolly
36.	ELISA assay (1) Uses complement mediated cell lysis (2) Uses a radio labeled second antibody (3) Involves addition of substrate which is converted into colored end product (4) Requires red blood cells
37.	PCR proceeds in three distinct steps governed by temperature, they are in order of (1) Denaturation, Annealing, Synthesis (2) Synthesis, Annealing, Denaturation (3) Annealing, Synthesis, Denaturation (4) Denaturation, Synthesis, Annealing
38.	Integrated Pest Management aims at (1) Keeping pest population below injurious level (2) Increasing natural enemies of the pest (3) Strengthening the host (4) Billing the pests

Question No.	Questions
39.	Cotton jassid can be controlled by (1) DDT (2) Aldrex (3) Copper Sulphide (4) None of these
40.	Three carp fishes <i>Catla</i> , <i>Labeo</i> and <i>Cirrhina</i> can be grown together in the same pond more economically as they show (1) Positive interactions (2) Commensalism (3) Symbiosis (4) No competition for food
41.	Puccinia forms Uredia and (1) Telia on wheat leaves (2) Aecia on barberry leaves (3) Pycnia on barberry leaves (4) Aecia on wheat leaves
42.	Which one of the following statements is true for viruses ? (1) Viruses possess their own metabolic system (2) All viruses contain both RNA and DNA (3) Viruses are obligate parasites (4) Nucleic acid of viruses is known as capsid

Question No.	Questions
43.	In bryophytes (1) Both generations are independent (2) Gametophytes are dependent upon sporophytes (3) Sporophytes complete their life cycle (4) Sporophytes are dependent upon gametophytes
44.	Gemma cups are characteristics of (1) <i>Marchantia</i> (2) <i>Anthoceros</i> (3) <i>Polytrichum</i> (4) <i>Riccia</i>
45.	Heterospory is the production of (1) Diploid and tetraploid spores (2) Sexual and asexual spores (3) Large and small spores (4) Haploid and diploid spores
46.	The stele in which xylem forms several plates is (1) Haplostele (2) Actinostele (3) Plectostele (4) Polycyclic

Question No.	Questions
47.	<p><i>Selaginella</i> belongs to division</p> <ol style="list-style-type: none">(1) Lycopsidea(2) Pteropsida(3) Psilopsida(4) Sphenopsida
48.	<p>Chorion is</p> <ol style="list-style-type: none">(1) Secondary envelop of mammalian egg(2) Primary egg membrane of amphibian(3) Secondary egg membrane of insect egg(4) Secondary egg membrane of bird egg
49.	<p>Cleavage of chick egg is</p> <ol style="list-style-type: none">(1) Holoblastic, equal(2) Discoidal meroblastic cleavage(3) Superficial meroblastic cleavage(4) Holoblastic unequal cleavage
50.	<p>What is true about cleavage in the fertilized egg in humans ?</p> <ol style="list-style-type: none">(1) It starts while the egg is in fallopian tube(2) It starts when the egg reaches uterus(3) It is meroblastic(4) It is identical to the normal mitosis

Question No.	Questions
51.	<p>If mammalian ovum fails to get fertilized, which one of the following is unlikely ?</p> <ol style="list-style-type: none">(1) Corpus luteum will disintegrate(2) Progesterone secretion rapidly declines(3) Estrogen secretion further decreases(4) Primary follicle starts developing
52.	<p>Adrenaline is released from the adrenal medulla under stress condition. Which of the following can't be taken as a character of it ?</p> <ol style="list-style-type: none">(1) Elevates blood glucose by converting liver glycogen to glucose(2) Acceleration of rate and force of heart beat(3) Increase in breakdown of lipids(4) Constriction in arterioles of skeletal muscle
53.	<p>Which of the following enzyme helps sperms to penetrate zona pellucida?</p> <ol style="list-style-type: none">(1) Hyaluronidase(2) Neuraminidase(3) Acrosin(4) Corona penetrating enzyme
54.	<p>Arginase enzyme will be operating at which step of the ornithine cycle ?</p> <ol style="list-style-type: none">(1) Ornithine – Urea(2) Arginine – Ornithine(3) Ornithine – Citrulline(4) Citrulline – Arginosuccinate
55.	<p>Which of the following cations is required for the conversion of prothrombin into active thrombin by thromboplastin ?</p> <ol style="list-style-type: none">(1) Ca^{2+}(2) Fe^{2+}(3) Mg^{2+}(4) Mn^{2+}

Question No.	Questions
56.	Which of the following is correctly matched ? (1) Vitamin E – Tocopherol (2) Vitamin D – Riboflavin (3) Vitamin B – Calciferol (4) Vitamin A – Thiamine
57.	Muscle fatigue sets in due to non-availability of (1) Calcium (2) ATP (3) Actin binding sites (4) Mg cofactor
58.	Random genetic drift in a population probably results from (1) Highly genetic variable individuals (2) Interbreeding within a population (3) Constant low mutation rate (4) Large population size
59.	Ecophenes or habitat forms are also called (1) Ecads (2) Ecotypes (3) Ecospecies (4) Ecotones
60.	Which of the following statement is not correct about energy flow in an ecosystem ? (1) Pyramid of energy is always right (2) Energy flow is unidirectional (3) Energy flow is cyclic (4) Ecologically efficiency is generally 10%

Question No.	Questions
61.	<p>Which one of the following phyla is correctly matched with its two general characteristics ?</p> <p>(1) Mollusca – Normally oviparous and development through a trochophore or veliger larva</p> <p>(2) Arthropoda – Body divided into head, thorax and abdomen and respiration by tracheae</p> <p>(3) Chordata – Notochord at some stage and separate anal and urinary opening to the outside</p> <p>(4) Echinodermata – Pentamerous radial symmetry and mostly internal fertilization</p>
62.	<p>Which one of the following is not a characterisitc of phylum Annelida ?</p> <p>(1) Ventral nerve chord</p> <p>(2) Closed circulatory system</p> <p>(3) Segmentation</p> <p>(4) Pseudocoelom</p>
63.	<p>The formation of canal system in sponges is due to</p> <p>(1) Folding of inner wall</p> <p>(2) Gastro - vascular system</p> <p>(3) Reproduction</p> <p>(4) Porous walls</p>
64.	<p>Which of the following structure is related to formation of middle layer of spermatophore in periplaneta ?</p> <p>(1) Utriculi majores</p> <p>(2) Utriculi breviores</p> <p>(3) Ejaculatory duct</p> <p>(4) Conglobate gland</p>

Question No.	Questions
65.	Earthworm has no skeleton but during burrowing, the anterior end becomes turgid and acts as hydraulic skeleton. It is due to (1) Setae (2) Coelomic fluid (3) Blood (4) Gut peristalsis
66.	Larvae of <i>Herdmania</i> is called (1) Bipinnaria (2) Auricularia (3) Tadpole (4) Doliolaria
67.	Poison glands of poisonous snake is a modified (1) Teeth (2) Salivary glands (3) Tongue (4) Mouth
68.	In frog, the heart has (1) One auricle and two ventricles (2) One auricle and one ventricle (3) Two auricles and one ventricle (4) Two auricles and two ventricles

Question No.	Questions
69.	<p>Which of the following keeps postpatagium stretched during flight in pigeon ?</p> <p>(1) Tensor longus (2) Tensor brevis (3) Tensor posterius (4) Tensor accessorius</p>
70.	<p>The number of classes in subphylum Cephalochordata is</p> <p>(1) One (2) Two (3) Three (4) Four</p>
71.	<p>Example of Cyclostomes is</p> <p>(1) <i>Pteromyzon</i> (2) <i>Ascidia</i> (3) <i>Amphioxus</i> (4) <i>Narcine</i></p>
72.	<p>Adaptive radiation refers to</p> <p>(1) Evolution of different species from a common ancestor (2) Migration of member of a species to different geographical areas (3) Power of adaptation in an individual to a variety of environments (4) Adaptation due to geographical isolation</p>
73.	<p>In rats, integument blood vessels are present in</p> <p>(1) Stratum (2) Stratum granulosum (3) Dermis (4) Both (2) and (3)</p>

Question No.	Questions
74.	Blocking action of an enzyme through blocking its active sites is (1) Allosteric inhibition (2) Feedback inhibition (3) Competitive inhibition (4) Non-competitive inhibition
75.	Which of the following enzymes acts in pentose phosphate pathway ? (1) 6 – phospho gluconate dehydrogenase (2) Pyruvate kinase (3) Glycogen phosphorylase (4) Phospho fructokinase 1
76.	According to the induced-fit hypothesis (1) Binding of the substrate is an energy requiring process (2) Competitive inhibitor can out compete the substrate for the active site (3) Binding of the substrate changes the shape of the enzyme slightly and can stress or bend in substrate bonds (4) The active site creates a micro environment ideal for the reaction
77.	Specificity of the enzyme depends upon (1) Active site (2) Linear sequence (3) K_m (4) Turn over numbers

Question No.	Questions
78.	<p>During which stage in the complete oxidation of glucose is the greatest number of ATP molecules formed from ADP ?</p> <ul style="list-style-type: none">(1) Glycolysis(2) Kreb's cycle(3) Conversion of pyruvic acid to acetyl CoA(4) Electron transport chain
79.	<p>To fix one molecule of nitrogen</p> <ul style="list-style-type: none">(1) 6 ATP molecules are required(2) 12 ATP molecules are required(3) 16 ATP molecules are required(4) 20 ATP molecules are required
80.	<p>Leghaemoglobin creates</p> <ul style="list-style-type: none">(1) Anaerobic condition for optimum activity of nitrogenase(2) Aerobic condition for optimum activity of nitrogenase(3) Required oxygen concentration for optimum activity of nitrogenase(4) Suitable environment for nodule formation
81.	<p>Lysosomes are rich in</p> <ul style="list-style-type: none">(1) Nucleic acid(2) Hydrolytic enzymes(3) Carbohydrates(4) Hormones

Question No.	Questions
82.	In chloroplasts, chlorophyll is present in (1) Outer membrane (2) Inner membrane (3) Thylakoids (4) Stroma
83.	Cyclin Dependent kinases (1) Act as mitotic poisons (2) Causes disassembly of the microtubules (3) Control various phases of cell cycle (4) Arrest cell division due to non-formation of spindle
84.	The beginning of which stage of prophase is marked by complete terminalization of chiasmata and inhibition of RNA synthesis (1) Pachytene (2) Diplotene (3) Diakinesis (4) Zygotene
85.	Which set is not the antigen presenting cells ? (1) Monocytes and histocytes (2) Histocytes and lymphocytes (3) Macrophages and Langerhans cells of skin (4) None of these
86.	Oncogenes are the cancer causing genes in the cells but they do not express usually because of the presence of (1) Proto-oncogenes (2) Tumour promoters (3) Tumour suppressor genes (4) Transposons or jumping genes

Question No.	Questions
87.	Necrosis in crops is due to the deficiency of (1) Ca, K, S and Mo (2) N, K, S and Mo (3) N, S, Fe and Zn (4) Mg, S, Mn and Ca
88.	Stomatal opening is affected by (1) Nitrogen concentration, Carbon dioxide concentration and light (2) Carbon dioxide concentration, temperature and light (3) Nitrogen concentration, light and temperature (4) Carbon dioxide concentration, nitrogen concentration and temperature
89.	Phototropic curvature is the result of uneven distribution of (1) Auxin (2) Gibberellin (3) Phytochrome (4) Cytokinins
90.	In C ₃ plants, the first stable product of photosynthesis during dark reaction is (1) Malic acid (2) Oxaloacetic acid (3) 3-phosphoglyceric acid (4) Phosphoglyceraldehyde
91.	Cyathium inflorescences is found in (1) <i>Croton</i> (2) <i>Ficus</i> (3) <i>Euphorbia</i> (4) <i>Ricinus</i>

Question No.	Questions
92.	Bicarpellary gynoecium and oblique ovary occurs in (1) Mustard (2) Banana (3) Pea (4) Brinjal
93.	Which of the following botanist is associated with phylogenetic classification ? (1) Bentham and Hooker (2) Theophrastus (3) Linnaeus (4) Engler and Prantl
94.	The taxonomic unit 'phylum' in the classification of animals is equivalent to which hierarchical level in classification of plants ? (1) Class (2) Order (3) Division (4) Family
95.	Ciliated sperms are found in (1) <i>Cycas</i> (2) <i>Pinus</i> (3) <i>Gnetum</i> (4) <i>Ginkgo</i>
96.	Which of the following is not generally found in gymnosperms ? (1) Vessels (2) Tracheids (3) Xylem parenchyma (4) Sieve cells

Question No.	Questions
97.	<p>The pollen bearing organs of <i>Lyginopteris</i> belong to</p> <ol style="list-style-type: none">(1) Cycadeoidea(2) Crossotheca(3) Calymmatotheca(4) Williamsonia
98.	<p>The wood of <i>Pinus</i> is</p> <ol style="list-style-type: none">(1) Manoxylic(2) Diploxylic(3) Polyxylic(4) Pycnoxylic
99.	<p>Which statement is true for bacterial transduction ?</p> <ol style="list-style-type: none">(1) Transfer of some genes from one bacteria to another bacteria through virus(2) Transfer of some genes from one bacterium to another bacterium by establishing contact(3) Bacteria obtained its DNA directly from mother cell(4) Bacteria obtained DNA from other external source
100.	<p>In a red algae showing triphasic life cycle, the phase of meiosis is</p> <ol style="list-style-type: none">(1) Gametophyte(2) Carposporophyte(3) Chantrelle stage(4) Plaque

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

(CPG-EE-2017)

Subject : LIFE SCIENCE

Code **C**

Sr. No. **10023**

SET-“A”

Time : 1½ Hours

Total Questions : 100

Max. Marks : 100

Roll No. _____ (in figure)

A. Suresh
22/4/17 (in words)

Name : _____

Date of Birth : _____

Father's Name : _____

Mother's Name : _____

Date of Examination : _____

(Signature of the candidate)

(Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/ INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. All questions are compulsory and carry equal marks. The candidates are required to attempt all questions.
2. The candidates must return the Question book-let as well as OMR answer-sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / misbehaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. In case there is any discrepancy in any question(s) in the Question Booklet, the same may be brought to the notice of the Controller of Examinations in writing **within two hours** after the test is over. No such complaint(s) will be entertained thereafter.
4. The candidate **MUST NOT** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question book-let itself. Answers **MUST NOT** be ticked in the Question book-let.
5. Use only Black or Blue **BALL POINT PEN** of good quality in the OMR Answer-Sheet.
6. There will be **Negative** marking. Each correct answer will be awarded one full mark and each incorrect answer will be negatively marked for which the candidate will get ¼ discredit. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.
7. BEFORE ANSWERING THE QUESTIONS, THE CANDIDATES SHOULD ENSURE THAT THEY HAVE BEEN SUPPLIED CORRECT AND COMPLETE BOOK-LET. COMPLAINTS, IF ANY, REGARDING MISPRINTING ETC. WILL NOT BE ENTERTAINED 30 MINUTES AFTER STARTING OF THE EXAMINATION.



Question No.	Questions
1.	Lysosomes are rich in (1) Nucleic acid (2) Hydrolytic enzymes (3) Carbohydrates (4) Hormones
2.	In chloroplasts, chlorophyll is present in (1) Outer membrane (2) Inner membrane (3) Thylakoids (4) Stroma
3.	Cyclin Dependent kinases (1) Act as mitotic poisons (2) Causes disassembly of the microtubules (3) Control various phases of cell cycle (4) Arrest cell division due to non-formation of spindle
4.	The beginning of which stage of prophase is marked by complete terminalization of chiasmata and inhibition of RNA synthesis (1) Pachytene (2) Diplotene (3) Diakinesis (4) Zygotene
5.	Which set is not the antigen presenting cells ? (1) Monocytes and histocytes (2) Histocytes and lymphocytes (3) Macrophages and Langerhans cells of skin (4) None of these

Question No.	Questions				
6.	<p>Oncogenes are the cancer causing genes in the cells but they do not express usually because of the presence of</p> <ol style="list-style-type: none">(1) Proto-oncogenes(2) Tumour promoters(3) Tumour suppressor genes(4) Transposons or jumping genes				
7.	<p>Necrosis in crops is due to the deficiency of</p> <ol style="list-style-type: none">(1) Ca, K, S and Mo(2) N, K, S and Mo(3) N, S, Fe and Zn(4) Mg, S, Mn and Ca				
8.	<p>Stomatal opening is affected by</p> <ol style="list-style-type: none">(1) Nitrogen concentration, Carbon dioxide concentration and light(2) Carbon dioxide concentration, temperature and light(3) Nitrogen concentration, light and temperature(4) Carbon dioxide concentration, nitrogen concentration and temperature				
9.	<p>Phototropic curvature is the result of uneven distribution of</p> <table border="0"><tr><td>(1) Auxin</td><td>(2) Gibberellin</td></tr><tr><td>(3) Phytochrome</td><td>(4) Cytokinins</td></tr></table>	(1) Auxin	(2) Gibberellin	(3) Phytochrome	(4) Cytokinins
(1) Auxin	(2) Gibberellin				
(3) Phytochrome	(4) Cytokinins				
10.	<p>In C₃ plants, the first stable product of photosynthesis during dark reaction is</p> <table border="0"><tr><td>(1) Malic acid</td><td>(2) Oxaloacetic acid</td></tr><tr><td>(3) 3-phosphoglyceric acid</td><td>(4) Phosphoglyceraldehyde</td></tr></table>	(1) Malic acid	(2) Oxaloacetic acid	(3) 3-phosphoglyceric acid	(4) Phosphoglyceraldehyde
(1) Malic acid	(2) Oxaloacetic acid				
(3) 3-phosphoglyceric acid	(4) Phosphoglyceraldehyde				

Question No.	Questions
11.	<p>The key enzyme in the regulation of fatty acid synthesis is</p> <ol style="list-style-type: none">(1) Acetyl CoA Carboxylase(2) AMP activated protein kinase(3) Protein phosphatase(4) None of the above
12.	<p>Which of the following statement best describes the beta oxidation of fatty acids ?</p> <ol style="list-style-type: none">(1) One acetyl CoA is produced in each turn of beta oxidation spiral(2) Beta oxidation of fatty acid is an extra mitochondrial process(3) The enzymes are present as multienzyme complex(4) The intermediates are carried by Acyl carrier proteins
13.	<p>How is Bt toxin known to kill the target insects in protection of cotton plants ?</p> <ol style="list-style-type: none">(1) Midgut cell lysis and swelling(2) Paralysis and loss of coordination(3) Formation of abnormal proteins(4) Brain death
14.	<p>Restriction endonucleases</p> <ol style="list-style-type: none">(1) Synthesizes DNA(2) Cuts the DNA molecule randomly(3) Cuts the DNA molecule at specific sites(4) Restricts the synthesis of DNA inside the nucleus

Question No.	Questions
15.	The first genetically modified non-human primate is (1) Frosty (2) ANDi (3) Prometea (4) Dolly
16.	ELISA assay (1) Uses complement mediated cell lysis (2) Uses a radio labeled second antibody (3) Involves addition of substrate which is converted into colored end product (4) Requires red blood cells
17.	PCR proceeds in three distinct steps governed by temperature, they are in order of (1) Denaturation, Annealing, Synthesis (2) Synthesis, Annealing, Denaturation (3) Annealing, Synthesis, Denaturation (4) Denaturation, Synthesis, Annealing
18.	Integrated Pest Management aims at (1) Keeping pest population below injurious level (2) Increasing natural enemies of the pest (3) Strengthening the host (4) Billing the pests

Question No.	Questions
19.	Cotton jassid can be controlled by (1) DDT (2) Aldrex (3) Copper Sulphide (4) None of these
20.	Three carp fishes <i>Catla</i> , <i>Labeo</i> and <i>Cirrhina</i> can be grown together in the same pond more economically as they show (1) Positive interactions (2) Commensalism (3) Symbiosis (4) No competition for food
21.	Which one of the following phyla is correctly matched with its two general characteristics ? (1) Mollusca – Normally oviparous and development through a trochophore or veliger larva (2) Arthropoda – Body divided into head, thorax and abdomen and respiration by tracheae (3) Chordata – Notochord at some stage and separate anal and urinary opening to the outside (4) Echinodermata – Pentamerous radial symmetry and mostly internal fertilization
22.	Which one of the following is not a characterisitic of phylum Annelida ? (1) Ventral nerve chord (2) Closed circulatory system (3) Segmentation (4) Pseudocoelom



Question No.	Questions
23.	The formation of canal system in sponges is due to (1) Folding of inner wall (2) Gastro - vascular system (3) Reproduction (4) Porous walls
24.	Which of the following structure is related to formation of middle layer of spermatophore in periplaneta ? (1) Utriculi majores (2) Utriculi breviores (3) Ejaculatory duct (4) Conglobate gland
25.	Earthworm has no skeleton but during burrowing, the anterior end becomes turgid and acts as hydraulic skeleton. It is due to (1) Setae (2) Coelomic fluid (3) Blood (4) Gut peristalsis
26.	Larvae of <i>Herdmania</i> is called (1) Bipinnaria (2) Auricularia (3) Tadpole (4) Doliolaria

Question No.	Questions
27.	Poison glands of poisonous snake is a modified (1) Teeth (2) Salivary glands (3) Tongue (4) Mouth
28.	In frog, the heart has (1) One auricle and two ventricles (2) One auricle and one ventricle (3) Two auricles and one ventricle (4) Two auricles and two ventricles
29.	Which of the following keeps postpatagium stretched during flight in pigeon ? (1) Tensor longus (2) Tensor brevis (3) Tensor posterius (4) Tensor accessorious
30.	The number of classes in subphylum Cephalochordata is (1) One (2) Two (3) Three (4) Four
31.	Cyathium inflorescences is found in (1) <i>Croton</i> (2) <i>Ficus</i> (3) <i>Euphorbia</i> (4) <i>Ricinus</i>

Question No.	Questions
32.	Bicarpellary gynoecium and oblique ovary occurs in (1) Mustard (2) Banana (3) Pea (4) Brinjal
33.	Which of the following botanist is associated with phylogenetic classification? (1) Bentham and Hooker (2) Theophrastus (3) Linnaeus (4) Engler and Prantl
34.	The taxonomic unit 'phyllum' in the classification of animals is equivalent to which hierarchical level in classification of plants? (1) Class (2) Order (3) Division (4) Family
35.	Ciliated sperms are found in (1) <i>Cycas</i> (2) <i>Pinus</i> (3) <i>Gnetum</i> (4) <i>Ginkgo</i>
36.	Which of the following is not generally found in gymnosperms? (1) Vessels (2) Tracheids (3) Xylem parenchyma (4) Sieve cells

Question No.	Questions
37.	The pollen bearing organs of <i>Lyginopteris</i> belong to (1) Cycadeoidea (2) Crossotheca (3) Calymmatotheca (4) Williamsonia
38.	The wood of <i>Pinus</i> is (1) Manoxylic (2) Diploxylic (3) Polyxylic (4) Pycnoxylic
39.	Which statement is true for bacterial transduction ? (1) Transfer of some genes from one bacteria to another bacteria through virus (2) Transfer of some genes from one bacterium to another bacterium by establishing contact (3) Bacteria obtained its DNA directly from mother cell (4) Bacteria obtained DNA from other external source
40.	In a red algae showing triphasic life cycle, the phase of meiosis is (1) Gametophyte (2) Carposporophyte (3) Chytridia stage (4) Plaque

Question No.	Questions
41.	<p>If mammalian ovum fails to get fertilized, which one of the following is unlikely ?</p> <p>(1) Corpus luteum will disintegrate (2) Progesterone secretion rapidly declines (3) Estrogen secretion further decreases (4) Primary follicle starts developing</p>
42.	<p>Adrenaline is released from the adrenal medulla under stress condition. Which of the following can't be taken as a character of it ?</p> <p>(1) Elevates blood glucose by converting liver glycogen to glucose (2) Acceleration of rate and force of heart beat (3) Increase in breakdown of lipids (4) Constriction in arterioles of skeletal muscle</p>
43.	<p>Which of the following enzyme helps sperms to penetrate zona pellucida?</p> <p>(1) Hyaluronidase (2) Neuraminidase (3) Acrosin (4) Corona penetrating enzyme</p>
44.	<p>Arginase enzyme will be operating at which step of the ornithine cycle ?</p> <p>(1) Ornithine – Urea (2) Arginine – Ornithine (3) Ornithine – Citrulline (4) Citrulline – Arginosuccinate</p>
45.	<p>Which of the following cations is required for the conversion of prothrombin into active thrombin by thromboplastin ?</p> <p>(1) Ca^{2+} (2) Fe^{2+} (3) Mg^{2+} (4) Mn^{2+}</p>

Question No.	Questions
46.	Which of the following is correctly matched ? (1) Vitamin E – Tocopherol (2) Vitamin D – Riboflavin (3) Vitamin B – Calciferol (4) Vitamin A – Thiamine
47.	Muscle fatigue sets in due to non-availability of (1) Calcium (2) ATP (3) Actin binding sites (4) Mg cofactor
48.	Random genetic drift in a population probably results from (1) Highly genetic variable individuals (2) Interbreeding within a population (3) Constant low mutation rate (4) Large population size
49.	Ecophenes or habitat forms are also called (1) Ecads (2) Ecotypes (3) Ecospecies (4) Ecotones
50.	Which of the following statement is not correct about energy flow in an ecosystem ? (1) Pyramid of energy is always right (2) Energy flow is unidirectional (3) Energy flow is cyclic (4) Ecologically efficiency is generally 10%



Question No.	Questions
51.	<p>The translocation of organic solutes in sieve tube members is supported by</p> <p>(1) Cytoplasmic streaming</p> <p>(2) Root pressure and transpiration pull</p> <p>(3) P-proteins</p> <p>(4) Mass flow involving a carrier and ATP</p>
52.	<p>Which of the following pair is mismatched ?</p> <p>(1) <i>Triticumaestivum</i>– LDP</p> <p>(2) <i>Zea mays</i> – DNP</p> <p>(3) <i>Glycine max</i> – SDP</p> <p>(4) <i>Raphanus sativus</i> – SLDP</p>
53.	<p>Cytokinins are said to be anti-aging hormones because they delay the senescence by</p> <p>(1) Controlling mobilization of resources</p> <p>(2) Controlling protein synthesis</p> <p>(3) Decreased morphogenesis and high respiration</p> <p>(4) Both (1) and (2)</p>
54.	<p>The cofactor of nitrate reductase activity is</p> <p>(1) Molybdenum (2) Copper</p> <p>(3) Iron (4) Boron</p>
55.	<p>Connecting link between respiration (TCA cycle) and protein synthesis is</p> <p>(1) Citric acid (2) Alpha keto glutaric acid</p> <p>(3) Succinic acid (4) Fumaric acid</p>

Question No.	Questions
56.	Growth in plant height due to the activity of apical and intercalary meristems is called (1) Steady growth (2) Stationary growth (3) Primary growth (4) Secondary growth
57.	Duodenum has characteristic Brunner's gland which secretes two hormones called (1) Kinase and estrogen (2) Secretin and cholecystokinin (3) Prolactin and parathormone (4) Estradiol and progesterone
58.	Botulism caused by <i>Clostridium botulinum</i> affects (1) Lymph glands (2) Neuromuscular junction (3) Spleen (4) Intestine
59.	In the resting state of the neural membrane, diffusion due to concentration gradients, if allowed, would drive (1) K^+ into the cell (2) K^+ and Na^+ out of the cell (3) Na^+ into the cell (4) Na^+ out of the cell
60.	Which of the following is not a second messenger in hormone action ? (1) cAMP (2) cGMP (3) Calcium (4) Sodium

SEAL
 Con

Question No.	Questions
61.	Climax community is in state of (1) Non-equilibrium (2) Equilibrium (3) Disorder (4) Constant change
62.	Which of the following gases are mainly responsible for the atmospheric greenhouse effect in the earth's atmosphere ? (1) Nitrogen and carbon dioxide (2) Water vapor and carbon dioxide (3) Ozone and oxygen (4) Oxygen and nitrogen
63.	Reserpine drug is extracted from (1) <i>Brassica oleracea</i> (2) <i>Atropa belladonna</i> (3) <i>Rauwolfia serpentine</i> (4) <i>Digitalis purpurea</i>
64.	Clove (<i>Syzygium aromaticum</i>) is the (1) Thin pod like capsules (2) Dried bark (3) Dried unopened flower buds (4) Dried stigma and top of the styles
65.	Flax fibers are obtained from (1) <i>Cannabis sativa</i> (2) <i>Crotolaria juncea</i> (3) <i>Cocos nucifera</i> (4) <i>Linum usitissimum</i>

Question No.	Questions
66.	Quiescent center is present in (1) Root apex (2) Shoot apex (3) Leaf tip (4) Floral meristem
67.	In which type of tapetum the protoplast of tapetal cells fuse and surround the developing microspore in the anther ? (1) Glandular tapetum (2) Secretory tapetum (3) Amoeboid tapetum (4) Integumentary tapetum
68.	Select a correct match (1) Geitonogamy – <i>Vallisneria</i> (2) Heterostyly – <i>Primula</i> (3) Exothecium – <i>Hibiscus</i> (4) Anemophily – <i>Adansonia</i>
69.	Which type of bonding is responsible for secondary structures of proteins? (1) Disulphide bridges between cysteine residues (2) Hydrogen bonding between the C = O and N - H group of peptide bond (3) Peptide bond between amino acids (4) Salt bridges between charged side chain of amino acid

SEAL

Question No.	Questions
70.	<p>Which of the following shows the last diploid stage in the life cycle of angiosperms ?</p> <p>(1) Microspore mother cell (2) Zygote (3) Central cell (4) Pollen grain</p>
71.	<p>Puccinia forms Uredia and</p> <p>(1) Telia on wheat leaves (2) Aecia on barberry leaves (3) Pycnia on barberry leaves (4) Aecia on wheat leaves</p>
72.	<p>Which one of the following statements is true for viruses ?</p> <p>(1) Viruses possess their own metabolic system (2) All viruses contain both RNA and DNA (3) Viruses are obligate parasites (4) Nucleic acid of viruses is known as capsid</p>
73.	<p>In bryophytes</p> <p>(1) Both generations are independent (2) Gametophytes are dependent upon sporophytes (3) Sporophytes complete their life cycle (4) Sporophytes are dependent upon gametophytes</p>

Question No.	Questions
74.	Gemma cups are characteristics of (1) <i>Marchantia</i> (2) <i>Anthoceros</i> (3) <i>Polytrichum</i> (4) <i>Riccia</i>
75.	Heterospory is the production of (1) Diploid and tetraploid spores (2) Sexual and asexual spores (3) Large and small spores (4) Haploid and diploid spores
76.	The stele in which xylem forms several plates is (1) Haplostele (2) Actinostele (3) Plectostele (4) Polycyclic
77.	<i>Selaginella</i> belongs to division (1) Lycopsidea (2) Pteropsida (3) Psilopsida (4) Sphenopsida



Question No.	Questions
78.	Chorion is (1) Secondary envelop of mammalian egg (2) Primary egg membrane of amphibian (3) Secondary egg membrane of insect egg (4) Secondary egg membrane of bird egg
79.	Cleavage of chick egg is (1) Holoblastic, equal (2) Discoidal meroblastic cleavage (3) Superficial meroblastic cleavage (4) Holoblastic unequal cleavage
80.	What is true about cleavage in the fertilized egg in humans ? (1) It starts while the egg is in fallopian tube (2) It starts when the egg reaches uterus (3) It is meroblastic (4) It is identical to the normal mitosis
81.	Pleiotropy occurs when a gene has (1) Complementary gene elsewhere (2) A small effect on one trait (3) Reversible effects on the phenotype, depending on age (4) Many effects on the phenotype
82.	Mendelian recombinations are due to (1) Linkage (2) Modification (3) Independent assortment of characters (4) Mutations

Question No.	Questions
88.	Fraternal twins are also known as (1) Non-identical twins (2) Identical twins (3) Maternal twins (4) None of these
89.	In <i>E. coli</i> , during lactose metabolism repressor binds to (1) Regulator gene (2) Operator gene (3) Structural gene (4) Promoter gene
90.	Alkaptonuria, phenylketonuria and Gaucher's diseases are (1) Defects in amino acid metabolism (2) Sex-linked recessive disorders (3) Autosomal recessive disorders (4) Defects in lipid metabolism
91.	Example of Cyclostomes is (1) <i>Pteromyzon</i> (2) <i>Ascidia</i> (3) <i>Amphioxus</i> (4) <i>Narcine</i>
92.	Adaptive radiation refers to (1) Evolution of different species from a common ancestor (2) Migration of member of a species to different geographical areas (3) Power of adaptation in an individual to a variety of environments (4) Adaptation due to geographical isolation

Question No.	Questions
93.	<p>In rats, integument blood vessels are present in</p> <p>(1) Stratum (2) Stratum granulosum (3) Dermis (4) Both (2) and (3)</p>
94.	<p>Blocking action of an enzyme through blocking its active sites is</p> <p>(1) Allosteric inhibition (2) Feedback inhibition (3) Competitive inhibition (4) Non-competitive inhibition</p>
95.	<p>Which of the following enzymes acts in pentose phosphate pathway ?</p> <p>(1) 6 – phospho gluconate dehydrogenase (2) Pyruvate kinase (3) Glycogen phosphorylase (4) Phospho fructokinase 1</p>
96.	<p>According to the induced-fit hypothesis</p> <p>(1) Binding of the substrate is an energy requiring process (2) Competitive inhibitor can out compete the substrate for the active site (3) Binding of the substrate changes the shape of the enzyme slightly and can stress or bend in substrate bonds (4) The active site creates a micro environment ideal for the reaction</p>



Question No.	Questions
97.	Specificity of the enzyme depends upon (1) Active site (2) Linear sequence (3) K_m (4) Turn over numbers
98.	During which stage in the complete oxidation of glucose is the greatest number of ATP molecules formed from ADP ? (1) Glycolysis (2) Kreb's cycle (3) Conversion of pyruvic acid to acetyl CoA (4) Electron transport chain
99.	To fix one molecule of nitrogen (1) 6 ATP molecules are required (2) 12 ATP molecules are required (3) 16 ATP molecules are required (4) 20 ATP molecules are required
100.	Leghaemoglobin creates (1) Anaerobic condition for optimum activity of nitrogenase (2) Aerobic condition for optimum activity of nitrogenase (3) Required oxygen concentration for optimum activity of nitrogenase (4) Suitable environment for nodule formation

(DO NOT OPEN THIS QUESTION BOOKLET BEFORE TIME OR UNTIL YOU ARE ASKED TO DO SO)

(CPG-EE-2017)

Subject : LIFE SCIENCE

Code

D

Sr. No. **10016**

SET-"A"

Time : 1½ Hours

Total Questions : 100

Max. Marks : 100

Roll No. _____ (in figure) _____ (in words)

Name : _____ Date of Birth : _____

Father's Name : _____ Mother's Name : _____

Date of Examination : _____

(Signature of the candidate)

(Signature of the Invigilator)

CANDIDATES MUST READ THE FOLLOWING INFORMATION/INSTRUCTIONS BEFORE STARTING THE QUESTION PAPER.

1. All questions are compulsory and carry equal marks. The candidates are required to attempt all questions.
2. The candidates must return the Question book-let as well as OMR answer-sheet to the Invigilator concerned before leaving the Examination Hall, failing which a case of use of unfair-means / misbehaviour will be registered against him / her, in addition to lodging of an FIR with the police. Further the answer-sheet of such a candidate will not be evaluated.
3. In case there is any discrepancy in any question(s) in the Question Booklet, the same may be brought to the notice of the Controller of Examinations in writing **within two hours** after the test is over. No such complaint(s) will be entertained thereafter.
4. The candidate **MUST NOT** do any rough work or writing in the OMR Answer-Sheet. Rough work, if any, may be done in the question book-let itself. Answers **MUST NOT** be ticked in the Question book-let.
5. **Use only Black or Blue BALL POINT PEN of good quality in the OMR Answer-Sheet.**
6. **There will be Negative marking. Each correct answer will be awarded one full mark and each incorrect answer will be negatively marked for which the candidate will get ¼ discredit. Cutting, erasing, overwriting and more than one answer in OMR Answer-Sheet will be treated as incorrect answer.**
7. **BEFORE ANSWERING THE QUESTIONS, THE CANDIDATES SHOULD ENSURE THAT THEY HAVE BEEN SUPPLIED CORRECT AND COMPLETE BOOK-LET. COMPLAINTS, IF ANY, REGARDING MISPRINTING ETC. WILL NOT BE ENTERTAINED 30 MINUTES AFTER STARTING OF THE EXAMINATION.**

SEAL

Question No.	Questions
1.	<p>Which one of the following phyla is correctly matched with its two general characteristics ?</p> <p>(1) Mollusca – Normally oviparous and development through a trochophore or veliger larva</p> <p>(2) Arthropoda – Body divided into head, thorax and abdomen and respiration by tracheae</p> <p>(3) Chordata – Notochord at some stage and separate anal and urinary opening to the outside</p> <p>(4) Echinodermata – Pentamerous radial symmetry and mostly internal fertilization</p>
2.	<p>Which one of the following is not a characteristic of phylum Annelida ?</p> <p>(1) Ventral nerve chord</p> <p>(2) Closed circulatory system</p> <p>(3) Segmentation</p> <p>(4) Pseudocoelom</p>
3.	<p>The formation of canal system in sponges is due to</p> <p>(1) Folding of inner wall</p> <p>(2) Gastro - vascular system</p> <p>(3) Reproduction</p> <p>(4) Porous walls</p>
4.	<p>Which of the following structure is related to formation of middle layer of spermatophore in periplaneta ?</p> <p>(1) Utriculi majores</p> <p>(2) Utriculi breviores</p> <p>(3) Ejaculatory duct</p> <p>(4) Conglobate gland</p>

Question No.	Questions
5.	<p>Earthworm has no skeleton but during burrowing, the anterior end becomes turgid and acts as hydraulic skeleton. It is due to</p> <ul style="list-style-type: none">(1) Setae(2) Coelomic fluid(3) Blood(4) Gut peristalsis
6.	<p>Larvae of <i>Herdmania</i> is called</p> <ul style="list-style-type: none">(1) Bipinnaria(2) Auricularia(3) Tadpole(4) Doliolaria
7.	<p>Poison glands of poisonous snake is a modified</p> <ul style="list-style-type: none">(1) Teeth(2) Salivary glands(3) Tongue(4) Mouth
8.	<p>In frog, the heart has</p> <ul style="list-style-type: none">(1) One auricle and two ventricles(2) One auricle and one ventricle(3) Two auricles and one ventricle(4) Two auricles and two ventricles

Question No.	Questions
9.	Which of the following keeps postpatagium stretched during flight in pigeon ? (1) Tensor longus (2) Tensor brevis (3) Tensor posterius (4) Tensor accessorious
10.	The number of classes in subphylum Cephalochordata is (1) One (2) Two (3) Three (4) Four
11.	Cyathium inflorescences is found in (1) <i>Croton</i> (2) <i>Ficus</i> (3) <i>Euphorbia</i> (4) <i>Ricinus</i>
12.	Bicarpellary gynoecium and oblique ovary occurs in (1) Mustard (2) Banana (3) Pea (4) Brinjal
13.	Which of the following botanist is associated with phylogenetic classification ? (1) Bentham and Hooker (2) Theophrastus (3) Linnaeus (4) Engler and Prantl

Question No.	Questions
14.	The taxonomic unit 'phylum' in the classification of animals is equivalent to which hierarchical level in classification of plants ? (1) Class (2) Order (3) Division (4) Family
15.	Ciliated sperms are found in (1) <i>Cycas</i> (2) <i>Pinus</i> (3) <i>Gnetum</i> (4) <i>Ginkgo</i>
16.	Which of the following is not generally found in gymnosperms ? (1) Vessels (2) Tracheids (3) Xylem parenchyma (4) Sieve cells
17.	The pollen bearing organs of <i>Lyginopteris</i> belong to (1) Cycadeoidea (2) Crossotheca (3) Calymmatotheca (4) Williamsonia
18.	The wood of <i>Pinus</i> is (1) Manoxylic (2) Diploxylic (3) Polyxylic (4) Pycnoxylic

Question No.	Questions
19.	<p>Which statement is true for bacterial transduction ?</p> <p>(1) Transfer of some genes from one bacteria to another bacteria through virus</p> <p>(2) Transfer of some genes from one bacterium to another bacterium by establishing contact</p> <p>(3) Bacteria obtained its DNA directly from mother cell</p> <p>(4) Bacteria obtained DNA from other external source</p>
20.	<p>In a red algae showing triphasic life cycle, the phase of meiosis is</p> <p>(1) Gametophyte</p> <p>(2) Carposporophyte</p> <p>(3) Chytridia stage</p> <p>(4) Zoospore</p>
21.	<p>If mammalian ovum fails to get fertilized, which one of the following is unlikely ?</p> <p>(1) Corpus luteum will disintegrate</p> <p>(2) Progesterone secretion rapidly declines</p> <p>(3) Estrogen secretion further decreases</p> <p>(4) Primary follicle starts developing</p>
22.	<p>Adrenaline is released from the adrenal medulla under stress condition. Which of the following can't be taken as a character of it ?</p> <p>(1) Elevates blood glucose by converting liver glycogen to glucose</p> <p>(2) Acceleration of rate and force of heart beat</p> <p>(3) Increase in breakdown of lipids</p> <p>(4) Constriction in arterioles of skeletal muscle</p>

Question No.	Questions
23.	Which of the following enzyme helps sperms to penetrate zona pellucida? (1) Hyaluronidase (2) Neuraminidase (3) Acrosin (4) Corona penetrating enzyme
24.	Arginase enzyme will be operating at which step of the ornithine cycle ? (1) Ornithine – Urea (2) Arginine – Ornithine (3) Ornithine – Citrulline (4) Citrulline – Arginosuccinate
25.	Which of the following cations is required for the conversion of prothrombin into active thrombin by thromboplastin ? (1) Ca^{2+} (2) Fe^{2+} (3) Mg^{2+} (4) Mn^{2+}
26.	Which of the following is correctly matched ? (1) Vitamin E – Tocopherol (2) Vitamin D – Riboflavin (3) Vitamin B – Calciferol (4) Vitamin A – Thiamine
27.	Muscle fatigue sets in due to non-availability of (1) Calcium (2) ATP (3) Actin binding sites (4) Mg cofactor

Question No.	Questions
28.	Random genetic drift in a population probably results from (1) Highly genetic variable individuals (2) Interbreeding within a population (3) Constant low mutation rate (4) Large population size
29.	Ecophenes or habitat forms are also called (1) Ecads (2) Ecotypes (3) Ecospecies (4) Ecotones
30.	Which of the following statement is not correct about energy flow in an ecosystem ? (1) Pyramid of energy is always right (2) Energy flow is unidirectional (3) Energy flow is cyclic (4) Ecologically efficiency is generally 10%
31.	Lysosomes are rich in (1) Nucleic acid (2) Hydrolytic enzymes (3) Carbohydrates (4) Hormones
32.	In chloroplasts, chlorophyll is present in (1) Outer membrane (2) Inner membrane (3) Thylakoids (4) Stroma

Question No.	Questions
33.	Cyclin Dependent kinases (1) Act as mitotic poisons (2) Causes disassembly of the microtubules (3) Control various phases of cell cycle (4) Arrest cell division due to non-formation of spindle
34.	The beginning of which stage of prophase is marked by complete terminalization of chiasmata and inhibition of RNA synthesis (1) Pachytene (2) Diplotene (3) Diakinesis (4) Zygotene
35.	Which set is not the antigen presenting cells ? (1) Monocytes and histocytes (2) Histocytes and lymphocytes (3) Macrophages and Langerhans cells of skin (4) None of these
36.	Oncogenes are the cancer causing genes in the cells but they do not express usually because of the presence of (1) Proto-oncogenes (2) Tumour promoters (3) Tumour suppressor genes (4) Transposons or jumping genes
37.	Necrosis in crops is due to the deficiency of (1) Ca, K, S and Mo (2) N, K, S and Mo (3) N, S, Fe and Zn (4) Mg, S, Mn and Ca

Question No.	Questions
38.	Stomatal opening is affected by (1) Nitrogen concentration, Carbon dioxide concentration and light (2) Carbon dioxide concentration, temperature and light (3) Nitrogen concentration, light and temperature (4) Carbon dioxide concentration, nitrogen concentration and temperature
39.	Phototropic curvature is the result of uneven distribution of (1) Auxin (2) Gibberellin (3) Phytochrome (4) Cytokinins
40.	In C ₃ plants, the first stable product of photosynthesis during dark reaction is (1) Malic acid (2) Oxaloacetic acid (3) 3-phosphoglyceric acid (4) Phosphoglyceraldehyde
41.	The key enzyme in the regulation of fatty acid synthesis is (1) Acetyl CoA Carboxylase (2) AMP activated protein kinase (3) Protein phosphatase (4) None of the above
42.	Which of the following statement best describes the beta oxidation of fatty acids ? (1) One acetyl CoA is produced in each turn of beta oxidation spiral (2) Beta oxidation of fatty acid is an extra mitochondrial process (3) The enzymes are present as multienzyme complex (4) The intermediates are carried by Acyl carrier proteins

Question No.	Questions
43.	<p>How is Bt toxin known to kill the target insects in protection of cotton plants ?</p> <ol style="list-style-type: none">(1) Midgut cell lysis and swelling(2) Paralysis and loss of coordination(3) Formation of abnormal proteins(4) Brain death
44.	<p>Restriction endonucleases</p> <ol style="list-style-type: none">(1) Synthesizes DNA(2) Cuts the DNA molecule randomly(3) Cuts the DNA molecule at specific sites(4) Restricts the synthesis of DNA inside the nucleus
45.	<p>The first genetically modified non-human primate is</p> <ol style="list-style-type: none">(1) Frosty(2) ANDi(3) Prometea(4) Dolly
46.	<p>ELISA assay</p> <ol style="list-style-type: none">(1) Uses complement mediated cell lysis(2) Uses a radio labeled second antibody(3) Involves addition of substrate which is converted into colored end product(4) Requires red blood cells

Question No.	Questions
47.	<p>PCR proceeds in three distinct steps governed by temperature, they are in order of</p> <ol style="list-style-type: none">(1) Denaturation, Annealing, Synthesis(2) Synthesis, Annealing, Denaturation(3) Annealing, Synthesis, Denaturation(4) Denaturation, Synthesis, Annealing
48.	<p>Integrated Pest Management aims at</p> <ol style="list-style-type: none">(1) Keeping pest population below injurious level(2) Increasing natural enemies of the pest(3) Strengthening the host(4) Billing the pests
49.	<p>Cotton jassid can be controlled by</p> <ol style="list-style-type: none">(1) DDT(2) Aldrex(3) Copper Sulphide(4) None of these
50.	<p>Three carp fishes <i>Catla</i>, <i>Labeo</i> and <i>Cirrhina</i> can be grown together in the same pond more economically as they show</p> <ol style="list-style-type: none">(1) Positive interactions(2) Commensalism(3) Symbiosis(4) No competition for food

Question No.	Questions
51.	Puccinia forms Uredia and (1) Telia on wheat leaves (2) Aecia on barberry leaves (3) Pycnia on barberry leaves (4) Aecia on wheat leaves
52.	Which one of the following statements is true for viruses ? (1) Viruses possess their own metabolic system (2) All viruses contain both RNA and DNA (3) Viruses are obligate parasites (4) Nucleic acid of viruses is known as capsid
53.	In bryophytes (1) Both generations are independent (2) Gametophytes are dependent upon sporophytes (3) Sporophytes complete their life cycle (4) Sporophytes are dependent upon gametophytes
54.	Gemma cups are characteristics of (1) <i>Marchantia</i> (2) <i>Anthoceros</i> (3) <i>Polytrichum</i> (4) <i>Riccia</i>

Question No.	Questions
55.	Heterospory is the production of (1) Diploid and tetraploid spores (2) Sexual and asexual spores (3) Large and small spores (4) Haploid and diploid spores
56.	The stele in which xylem forms several plates is (1) Haplostele (2) Actinostele (3) Plectostele (4) Polycyclic
57.	<i>Selaginella</i> belongs to division (1) Lycopsidea (2) Pteropsida (3) Psilopsida (4) Sphenopsida
58.	Chorion is (1) Secondary envelop of mammalian egg (2) Primary egg membrane of amphibian (3) Secondary egg membrane of insect egg (4) Secondary egg membrane of bird egg

Question No.	Questions
59.	Cleavage of chick egg is (1) Holoblastic, equal (2) Discoidal meroblastic cleavage (3) Superficial meroblastic cleavage (4) Holoblastic unequal cleavage
60.	What is true about cleavage in the fertilized egg in humans ? (1) It starts while the egg is in fallopian tube (2) It starts when the egg reaches uterus (3) It is meroblastic (4) It is identical to the normal mitosis
61.	Example of Cyclostomes is (1) <i>Pteromyzon</i> (2) <i>Ascidia</i> (3) <i>Amphioxus</i> (4) <i>Narcine</i>
62.	Adaptive radiation refers to (1) Evolution of different species from a common ancestor (2) Migration of member of a species to different geographical areas (3) Power of adaptation in an individual to a variety of environments (4) Adaptation due to geographical isolation
63.	In rats, integument blood vessels are present in (1) Stratum (2) Stratum granulosum (3) Dermis (4) Both (2) and (3)

Question No.	Questions
64.	Blocking action of an enzyme through blocking its active sites is (1) Allosteric inhibition (2) Feedback inhibition (3) Competitive inhibition (4) Non-competitive inhibition
65.	Which of the following enzymes acts in pentose phosphate pathway ? (1) 6 – phospho gluconate dehydrogenase (2) Pyruvate kinase (3) Glycogen phosphorylase (4) Phospho fructokinase 1
66.	According to the induced-fit hypothesis (1) Binding of the substrate is an energy requiring process (2) Competitive inhibitor can out compete the substrate for the active site (3) Binding of the substrate changes the shape of the enzyme slightly and can stress or bend in substrate bonds (4) The active site creates a micro environment ideal for the reaction
67.	Specificity of the enzyme depends upon (1) Active site (2) Linear sequence (3) K_m (4) Turn over numbers

Question No.	Questions
68.	<p>During which stage in the complete oxidation of glucose is the greatest number of ATP molecules formed from ADP ?</p> <ol style="list-style-type: none">(1) Glycolysis(2) Kreb's cycle(3) Conversion of pyruvic acid to acetyl CoA(4) Electron transport chain
69.	<p>To fix one molecule of nitrogen</p> <ol style="list-style-type: none">(1) 6 ATP molecules are required(2) 12 ATP molecules are required(3) 16 ATP molecules are required(4) 20 ATP molecules are required
70.	<p>Leghaemoglobin creates</p> <ol style="list-style-type: none">(1) Anaerobic condition for optimum activity of nitrogenase(2) Aerobic condition for optimum activity of nitrogenase(3) Required oxygen concentration for optimum activity of nitrogenase(4) Suitable environment for nodule formation
71.	<p>Pleiotropy occurs when a gene has</p> <ol style="list-style-type: none">(1) Complementary gene elsewhere(2) A small effect on one trait(3) Reversible effects on the phenotype, depending on age(4) Many effects on the phenotype

Question No.	Questions
72.	Mendelian recombinations are due to (1) Linkage (2) Modification (3) Independent assortment of characters (4) Mutations
73.	Kappa particles are present in (1) Plastids (2) Mitochondria (3) Plasmids (4) Cytoplasm
74.	Chimera is produced due to (1) Somatic mutations (2) Reverse mutations (3) Lethal mutations (4) Recombination
75.	Extra nuclear inheritance is a consequence of presence of genes in (1) Mitochondria and chloroplasts (2) Endoplasmic reticulum and mitochondria (3) Ribosomes and chloroplast (4) Lysosomes and ribosomes
76.	The formation of polyribosomes from ribosomes is done in the presence of (1) Na ⁺ ions (2) K ⁺ ions (3) Ca ²⁺ ions (4) Mg ²⁺ ions

Question No.	Questions
77.	The person suffering from albinism lacks the enzyme (1) Tyrosinase (2) Phenylalanine hydroxylase (3) Peptidase (4) Ribozyme
78.	Fraternal twins are also known as (1) Non-identical twins (2) Identical twins (3) Maternal twins (4) None of these
79.	In <i>E. coli</i> , during lactose metabolism repressor binds to (1) Regulator gene (2) Operator gene (3) Structural gene (4) Promoter gene
80.	Alkaptonuria, phenylketonuria and Gaucher's diseases are (1) Defects in amino acid metabolism (2) Sex-linked recessive disorders (3) Autosomal recessive disorders (4) Defects in lipid metabolism

Question No.	Questions				
81.	<p>The translocation of organic solutes in sieve tube members is supported by</p> <ol style="list-style-type: none"> (1) Cytoplasmic streaming (2) Root pressure and transpiration pull (3) P-proteins (4) Mass flow involving a carrier and ATP 				
82.	<p>Which of the following pair is mismatched ?</p> <ol style="list-style-type: none"> (1) <i>Triticumaestivum</i> - LDP (2) <i>Zea mays</i> - DNP (3) <i>Glycine max</i> - SDP (4) <i>Raphanus sativus</i> - SLDP 				
83.	<p>Cytokinins are said to be anti-aging hormones because they delay the senescence by</p> <ol style="list-style-type: none"> (1) Controlling mobilization of resources (2) Controlling protein synthesis (3) Decreased morphogenesis and high respiration (4) Both (1) and (2) 				
84.	<p>The cofactor of nitrate reductase activity is</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">(1) Molybdenum</td> <td style="width: 50%;">(2) Copper</td> </tr> <tr> <td>(3) Iron</td> <td>(4) Boron</td> </tr> </table>	(1) Molybdenum	(2) Copper	(3) Iron	(4) Boron
(1) Molybdenum	(2) Copper				
(3) Iron	(4) Boron				
85.	<p>Connecting link between respiration (TCA cycle) and protein synthesis is</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">(1) Citric acid</td> <td style="width: 50%;">(2) Alpha keto glutaric acid</td> </tr> <tr> <td>(3) Succinic acid</td> <td>(4) Fumaric acid</td> </tr> </table>	(1) Citric acid	(2) Alpha keto glutaric acid	(3) Succinic acid	(4) Fumaric acid
(1) Citric acid	(2) Alpha keto glutaric acid				
(3) Succinic acid	(4) Fumaric acid				



Question No.	Questions
86.	Growth in plant height due to the activity of apical and intercalary meristems is called (1) Steady growth (2) Stationary growth (3) Primary growth (4) Secondary growth
87.	Duodenum has characteristic Brunner's gland which secretes two hormones called (1) Kinase and estrogen (2) Secretin and cholecystokinin (3) Prolactin and parathormone (4) Estradiol and progesterone
88.	Botulism caused by <i>Clostridium botulinum</i> affects (1) Lymph glands (2) Neuromuscular junction (3) Spleen (4) Intestine
89.	In the resting state of the neural membrane, diffusion due to concentration gradients, if allowed, would drive (1) K^+ into the cell (2) K^+ and Na^+ out of the cell (3) Na^+ into the cell (4) Na^+ out of the cell
90.	Which of the following is not a second messenger in hormone action ? (1) cAMP (2) cGMP (3) Calcium (4) Sodium

Question No.	Questions
91.	Climax community is in state of (1) Non-equilibrium (2) Equilibrium (3) Disorder (4) Constant change
92.	Which of the following gases are mainly responsible for the atmospheric greenhouse effect in the earth's atmosphere ? (1) Nitrogen and carbon dioxide (2) Water vapor and carbon dioxide (3) Ozone and oxygen (4) Oxygen and nitrogen
93.	Reserpine drug is extracted from (1) <i>Brassica oleracea</i> (2) <i>Atropa belladonna</i> (3) <i>Rauwolfia serpentine</i> (4) <i>Digitalis purpurea</i>
94.	Clove (<i>Syzygium aromaticum</i>) is the (1) Thin pod like capsules (2) Dried bark (3) Dried unopened flower buds (4) Dried stigma and top of the styles
95.	Flax fibers are obtained from (1) <i>Cannabis sativa</i> (2) <i>Crotolaria juncea</i> (3) <i>Cocos nucifera</i> (4) <i>Linum usitissimum</i>

Question No.	Questions
96.	Quiescent center is present in (1) Root apex (2) Shoot apex (3) Leaf tip (4) Floral meristem
97.	In which type of tapetum the protoplast of tapetal cells fuse and surround the developing microspore in the anther ? (1) Glandular tapetum (2) Secretory tapetum (3) Amoeboid tapetum (4) Integumentary tapetum
98.	Select a correct match (1) Geitonogamy – <i>Vallisneria</i> (2) Heterostyly – <i>Primula</i> (3) Exothecium – <i>Hibiscus</i> (4) Anemophily – <i>Adansonia</i>
99.	Which type of bonding is responsible for secondary structures of proteins? (1) Disulphide bridges between cysteine residues (2) Hydrogen bonding between the C = O and N - H group of peptide bond (3) Peptide bond between amino acids (4) Salt bridges between charged side chain of amino acid
100.	Which of the following shows the last diploid stage in the life cycle of angiosperms ? (1) Microspore mother cell (2) Zygote (3) Central cell (4) Pollen grain

LIFE SCIENCE CENTRALIZED ENTRANCE EXAM KEY 22-06-2017

Srl no.	SET-A	SET-B	SET-C	SET-D
1	4	2	2	1
2	3	2	3	4
3	4	3	3	4
4	1	3	3	3
5	1	4	4	2
6	4	1	3	3
7	1	3	1	2
8	1	2	2	3
9	2	2	1	3
10	3	1	3	1
11	2	3	1	3
12	3	4	1	4
13	3	4	1	4
14	3	1	3	3
15	4	2	4	1
16	3	3	3	1
17	1	2	1	2
18	2	2	1	4
19	1	3	2	1
20	3	4	4	2
21	3	4	1	4
22	4	3	4	3
23	4	4	4	3
24	1	1	3	2
25	2	1	2	1
26	3	4	3	1
27	2	1	2	2
28	2	1	3	2
29	3	2	3	1
30	4	3	1	3
31	4	1	3	2
32	3	1	4	3
33	3	1	4	3
34	2	3	3	3
35	1	4	1	4

Ujjay G. Samant
22/6/17

P. N. D.
22/6/17

V. M. D.
22/6/17

LIFE SCIENCE CENTRALIZED ENTRANCE EXAM KEY 22-06-2017

Srl no.	SET-A	SET-B	SET-C	SET-D
36	1	3	1	3
37	2	1	2	1
38	2	1	4	2
39	1	2	1	1
40	3	4	2	3
41	2	1	4	1
42	2	3	3	1
43	3	4	3	1
44	3	1	2	3
45	4	3	1	4
46	1	2	1	3
47	3	1	2	1
48	2	3	2	1
49	2	2	1	2
50	1	1	3	4
51	3	4	3	1
52	4	3	4	3
53	4	3	4	4
54	3	2	1	1
55	1	1	2	3
56	1	1	3	2
57	2	2	2	1
58	4	2	2	3
59	1	1	3	2
60	2	3	4	1
61	1	1	2	1
62	3	4	2	1
63	4	4	3	3
64	1	3	3	3
65	3	2	4	1
66	2	3	1	3
67	1	2	3	1
68	3	3	2	4
69	2	3	2	1
70	1	1	1	1

V. Anand
22.6.17

G. Sankar
22/6/17

Ujij

P. Prasad
22.6.2017

LIFE SCIENCE CENTRALIZED ENTRANCE EXAM KEY 22-06-2017

Srl no.	SET-A	SET-B	SET-C	SET-D
71	1	1	1	4
72	4	1	3	3
73	4	3	4	4
74	3	3	1	1
75	2	1	3	1
76	3	3	2	4
77	2	1	1	1
78	3	4	3	1
79	3	1	2	2
80	1	1	1	3
81	1	2	4	3
82	1	3	3	4
83	3	3	4	4
84	3	3	1	1
85	1	4	1	2
86	3	3	4	3
87	1	1	1	2
88	4	2	1	2
89	1	1	2	3
90	1	3	3	4
91	1	3	1	2
92	1	4	1	2
93	1	4	3	3
94	3	3	3	3
95	4	1	1	4
96	3	1	3	1
97	1	2	1	3
98	1	4	4	2
99	2	1	1	2
100	4	2	1	1

C. Sankar
22/6/17

Vijay Prasad
22.6.17

V. Anand
22.6.17