SUBJECT : BIOLOGY	DAY–1
SESSION : MORNING	TIME : 10.30 A.M. TO 11.50 A.M.

MAXIMUM MARKS	TOTAL DURATION	MAXIMUM TIME FOR ANSWERING
60	80 MINUTES	70 MINUTES

MENTION YOUR CET NUMBER	QUESTION BOOKLET DETAILS	
	VERSION CODE	SERIAL NUMBER
	A - 1	148977

DOs :

1. Check whether the CET No. has been entered and shaded in the respective circles on the OMR answer sheet.
2. This Question Booklet is issued to you by the invigilator after the **2nd Bell i.e., after 10.30 a.m.**
3. The Serial Number of this question booklet should be entered on the OMR answer sheet.
4. The Version Code of this question booklet should be entered on the OMR answer sheet and the respective circles should also be shaded completely.
5. Compulsorily sign at the bottom portion of the OMR answer sheet in the space provided.

DON'TS :

1. **THE TIMING AND MARKS PRINTED ON THE OMR ANSWER SHEET SHOULD NOT BE DAMAGED / MUTILATED / SPOILED.**
2. The **3rd Bell rings at 10.40 a.m., till then;**
   - Do not remove the paper seal present on the right hand side of this question booklet.
   - Do not look inside this question booklet.
   - Do not start answering on the OMR answer sheet.

IMPORTANT INSTRUCTIONS TO CANDIDATES

1. This question booklet contains 60 questions and each question will have one statement and four distracters. (Four different options / choices.)
2. After the **3rd Bell is rung at 10.40 a.m.,** remove the paper seal on the right hand side of this question booklet and check that this booklet does not have any unprinted or torn or missing pages or items etc., if so, get it replaced by a complete test booklet. Read each item and start answering on the OMR answer sheet.
3. During the subsequent 70 minutes:
   - Read each question carefully.
   - Choose the correct answer from out of the four available distracters (options / choices) given under each question / statement.
   - **Completely darken / shade the relevant circle with a BLUE OR BLACK INK BALL POINT PEN against the question number on the OMR answer sheet.**

Correct Method of shading the circle on the OMR answer sheet is as shown below :

4. Please note that even a minute unintended ink dot on the OMR answer sheet will also be recognised and recorded by the scanner. Therefore, avoid multiple markings of any kind on the OMR answer sheet.
5. Use the space provided on each page of the question booklet for Rough Work. Do not use the OMR answer sheet for the same.
6. After the **last bell is rung at 11.50 a.m.,** stop writing on the OMR answer sheet and affix your LEFT HAND THUMB IMPRESSION on the OMR answer sheet as per the instructions.
7. Hand over the **OMR ANSWER SHEET** to the room invigilator as it is.
8. After separating the top sheet (Our Copy), the invigilator will return the bottom sheet replica (Candidate's copy) to you to carry home for self-evaluation.
9. Preserve the replica of the OMR answer sheet for a minimum period of ONE year.

1. The most unstable RNA is

(1) Messenger RNA (2) Soluble RNA

(3) Ribosomal RNA (4) Heterogeneous nuclear RNA

2. Choose the right one which denotes genetic diversity.

(1) Chromosomes – nucleotides – genes – individuals – populations

(2) Populations – individuals – chromosomes – nucleotides – genes

(3) Genes – nucleotides – chromosomes – individuals – populations

(4) Nucleotides – genes – chromosomes – individuals – populations

3. The portion of an Eukaryotic gene which is transcribed but not translated is

(1) Exon (2) Intron

(3) Cistron (4) Codon

4. The appearance of chancre, rashes all over the body are the symptoms of

(1) Gonorrhoea (2) Aids

(3) Syphilis (4) Fever

5. Read the statements (A) and (B). Choose the right one.

(A) Synthesis of mRNA takes place in 5' – 3' direction.

(B) Reading of mRNA is always in 3' – 5' direction.

(1) Both the statements are wrong.

(2) Statement (A) is wrong, (B) is correct.

(3) Statement (B) is wrong, (A) is correct.

(4) Both the statements (A) and (B) are correct.

Space For Rough Work

6. Assimilatory power is

(1) $NADPH_2$ (2) ATP

(3) ATP and $NADPH_2$ (4) $FADH_2$

7. ECORI cleaves the DNA strands to produce

(1) Blunt ends (2) Sticky ends

(3) Satellite ends (4) Ori replication end

8. Read the statements (A) and (B) and identify the correct choice from those given :

Statement (A) : Women are at the peak of conception on the 14^{th} day of ovulation.

Statement (B) : Vasectomy is the method normally employed to avoid conception in females.

(1) Statement (A) is wrong, (B) is right.

(2) Statement (A) is right, (B) is wrong.

(3) Both the statements are right.

(4) Both the statements are wrong.

9. The sequence of nitrogenous bases in one strand of DNA are 3' TAC GCG ACG 5'. The complementary DNA strand should have

(1) 5' AUG CGC TGC 3' (2) 3' ATG CGC TGC 5'

(3) 5' UAC GCG ACG 3' (4) 5' ATG CGC TGC 3'

10. Which one of the following statement is correct regarding spinal cord ?

(1) It is composed of outer grey matter and inner white matter.

(2) It is composed of outer white matter and inner grey matter.

(3) It is composed of outer grey matter and inner colourless matter.

(4) It is composed of grey matter only.

Space For Rough Work

11. Match the entries in Column I with those of Column II and choose the correct answer.

Column – I	Column – II
(A) Restriction endonucleases	(P) Kohler and Milstein
(B) Polymerase chain reaction	(Q) Alec Jeffreys
(C) DNA fingerprinting	(R) Arber
(D) Monoclonal antibodies	(S) Karry Mullis

	(A)	(B)	(C)	(D)
(1)	(R)	(S)	(Q)	(P)
(2)	(R)	(Q)	(S)	(P)
(3)	(Q)	(R)	(S)	(P)
(4)	(Q)	(S)	(R)	(Q)

12. Which taxonomic term may be suggested for any rank in the classification ?

(1) Class (2) Order

(3) Species (4) Taxon

13. In one of the techniques of recombinant insulin production the genes for α and β polypeptides were inserted into the plasmid by the side of

(1) Antibiotic resistance gene

(2) Lac z promoter gene

(3) β galactosidase gene

(4) Ori

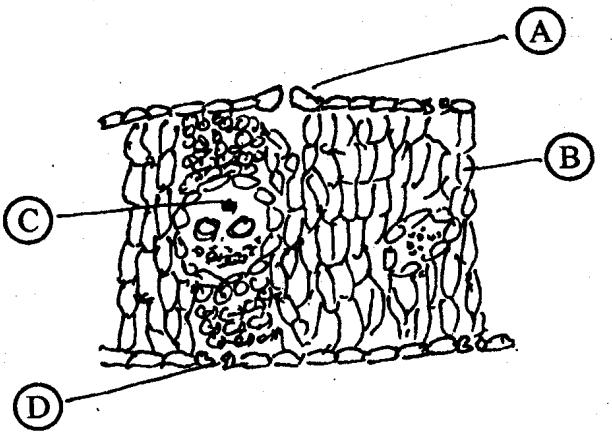
14. Which one does not belong to monera ?

(1) Slime moulds (2) Mycoplasma

(3) Eubacteria (4) Archaebacteria

Space For Rough Work

15. The diagram given below represents the T.S. of dicot leaf. Identify the parts labelled as A, B, C and D, which denote their functions and choose the correct one given below :



(1) A : Motor action B : Photosynthesis
C : Conduction D : Transpiration

(2) A : Motor action B : Conduction
C : Photosynthesis D : Transpiration

(3) A : Transpiration B : Photosynthesis
C : Conduction D : Transpiration

(4) A : Transpiration B : Conduction
C : Photosynthesis D : Motor action

16. Which of the following tissue is not a component of a complex tissues ?

(1) Parenchyma (2) Collenchyma
(3) Sclerenchyma (4) Tracheids

17. Mosses and ferns are

(1) Thallophytes of plant kingdom
(2) Angiosperms of plant kingdom
(3) Gymnosperms of plant kingdom
(4) Amphibians of plant kingdom

Space For Rough Work

18. Plasmodermata is usually observed between

(1) Sieve tubes and Bast fibre

(2) Trachea and Phloem fibres

(3) Xylem parenchyma and xylem fibres

(4) Sieve tubes and companion cells

19. The embryo sac of an angiosperm is made up of

(1) 8 cells

(2) 7 cells and 8 nuclei

(3) 8 nuclei

(4) 8 cells and 7 nuclei

20. Cork Cambium of dicot stem originates from

(1) Dedifferentiated parenchyma cells of cortex

(2) Dedifferentiated collenchyma cells of cortex

(3) Parenchyma cells of medullary ray

(4) Parenchyma cells of pericycle

21. Match the words of Column I with that of Column II and choose the correct answer given below :

Column – I		**Column – II**
(A)	Algae	(P) Gymnosperms
(B)	Riccia	(Q) Pond scum
(C)	Spirogyra	(R) Autotrophic
(D)	Gnetum	(S) Liverwort

	(A)	**(B)**	**(C)**	**(D)**
(1)	(R)	(S)	(Q)	(P)
(2)	(P)	(S)	(Q)	(R)
(3)	(S)	(P)	(R)	(Q)
(4)	(R)	(Q)	(S)	(P)

Space For Rough Work

22. The opening and closing of stomata are controlled by the activity of

(1) Guard cells (2) Epidermal cells

(3) Mesophyll cells (4) Lenticels

23. In which of these following phyla given as the adult shows radial symmetry, the larva shows bilateral symmetry ?

(1) Annelids (2) Arthropods

(3) Molluscs (4) Echinodermata

24. A thin film of water covering the soil particles and held strongly by attractive forces is called

(1) Run away (2) Hygroscopic

(3) Gravitational (4) Capillary

25. Which one of the following groups of 3 animals each is correctly matched with their one characteristic morphological features ?

	Animals		**Morphological features**
(1)	Centipede, Prawn, Sea urchin	–	Jointed appendages
(2)	Cockroach, Locust, Taenia	–	Metameric segmentation
(3)	Scorpion, Spider, Cockroach	–	Ventral solid nerve cord
(4)	Liverfluke, Sea anemone, Sea cucumber	–	Bilateral symmetry

26. Consider the following statements and select the correct one :

Statement (A) : Pure water has maximum water potential.

Statement (B) : The osmotic potential is zero in pure water.

(1) Both statements are correct and (B) is not the reason for (A).

(2) Both statements are wrong.

(3) Both statements are correct and (B) is the reason for (A).

(4) Both statements are correct.

Space For Rough Work

27. A bivalent of meiosis I consists of

(1) Four chromatids and two centromeres

(2) Two chromatids and one centromere

(3) Two chromatids and two centromeres

(4) Four chromatids and four centromeres

28. Electrons from excited chlorophyll molecules of photosystem II are accepted first by

(1) Ferredoxin (2) Pheophytin

(3) Cytochrome b (4) Cytochrome f

29. Match the following list of animals with their level of organization and choose the correct sequence :

	Column – I		**Column – II**
(A)	Organ level	(P)	Pheritima
(B)	Cellular aggregate level	(Q)	Fasciola
(C)	Tissue level	(R)	Spongilla
(D)	Organ system level	(S)	Obelia

	(A)	**(B)**	**(C)**	**(D)**
(1)	(S)	(R)	(P)	(Q)
(2)	(S)	(Q)	(R)	(P)
(3)	(Q)	(S)	(R)	(P)
(4)	(Q)	(R)	(S)	(P)

30. Oxidative decarboxylation occurs during the formation of

(1) Citric acid and Succinic acid

(2) Citric acid and Oxaloacetic acid

(3) Acetyl CoA and Succinyl CoA

(4) Oxaloacetic acid and Oxalosuccinic acid

Space For Rough Work

31. The edible part of the fruit of apple is

(1) Endocarp
(2) Thalamus
(3) Pericarp
(4) Perianth

32. Given below is an electron acceptor. Mention its status, which is labelled as (A)

$Cyt^{++} \xrightarrow{2e} Cyt^{+++}$ (A)

(1) Oxidised
(2) Reduced
(3) Phosphorylation
(4) Hydrated

33. The Floral formula $\female K_5 \overset{\frown}{C_{(5)}} A_5 G_2$ is that of

(1) Hibiscus
(2) Banana
(3) Tulip
(4) Vinca

34. Interferons are the protein molecules produced from the

(1) Normal cells
(2) Infected host cells
(3) Macrophages
(4) B. Lymphocytes

35. Tikka is a

(1) Fungal disease
(2) Viral disease
(3) Bacterial disease
(4) Protozoan disease

36. Which of the statement is correct ?

(1) Each back cross is a test cross.
(2) Each test cross is a back cross.
(3) Crossing F_2 with F_1 is a test cross.
(4) Crossing F_2 with P_1 is called a test cross.

Space For Rough Work

37. Amrithmahal is a/an

(1) Dual purpose breed
(2) Exotic breed
(3) Cross breed
(4) Drought breed

38. Gynecomastica is the symptom of

(1) Klinefelter's syndrome
(2) Down's syndrome
(3) Turner's syndrome
(4) Cri-du-chat syndrome

39. The branch of biology that deals with study of fossil animals is known as

(1) Para biology
(2) Phylogeny
(3) Paleontology
(4) Para zoology

40. A colourblind man marries the daughter of another colourblind man whose wife had a normal genotype for colour vision. In their progeny

(1) All the children would colourblind.
(2) All their sons are colourblind.
(3) None of the daughters would be colourblind.
(4) Half of their sons and half of their daughters would be colourblind.

41. The plants which have antidiabetic properties

(1) Ocimum sanctum
(2) Gymnema sylvestre
(3) Adathoda vasica
(4) Phyllantus emblica

42. Deforestation means

(1) growing plants and trees in an area where there is no forest.
(2) growing plants and trees in an area where the forest is removed.
(3) growing plants and trees in a pond.
(4) removal of plants and trees.

Space For Rough Work

43. Lysosomes are produced by

(1) Golgi complex (2) Mitochondria

(3) Endoplasmic reticulum (4) Leucoplasts

44. Kokkarebellur Bird Sanctuary is noticed in

(1) Mandya (2) Mysore

(3) Chamarajnagar (4) Hassan

45. One of the following is also called Sewall Wright effect.

(1) Isolation (2) Gene pool

(3) Genetic drift (4) Gene flow

46. Oran is a

(1) Sacred groove (2) Sacred landscape

(3) Sacred animal (4) Endangered animal

47. Put the following parts of a reflex arc in the correct order beginning with the sensory receptor :

(A) Motor neuron

(B) Interneuron

(C) Effector

(D) Sensory neuron

(E) Sensory receptor

(1) (E) (D) (B) (A) (C)

(2) (E) (D) (A) (B) (C)

(3) (A) (B) (C) (D) (E)

(4) (A) (E) (D) (B) (C)

Space For Rough Work

48. The trachea terminates into

(1) Bronchial Tree (2) Atrium

(3) Bronchi (4) Alveoli

49. Match the entries in Column – I with those of Column II and choose the correct answer given below :

Column – I	Column – II
(A) FSH	(P) Normal growth
(B) GH	(Q) Ovulation
(C) Prolactin	(R) Parturition
(D) Oxytocin	(S) Water diuresis
	(T) Milk secretion

	(A)	(B)	(C)	(D)
(1)	(Q)	(P)	(T)	(R)
(2)	(Q)	(P)	(T)	(S)
(3)	(P)	(T)	(R)	(Q)
(4)	(Q)	(T)	(S)	(R)

50. Formation of activation calyx in the egg takes place

(1) Before fertilization

(2) After fertilization

(3) At the time of Cleavage

(4) At the time of Amphimixis

51. Which of the following part of Cockroach leg is attached to thorax ventrally ?

(1) Trochanter (2) Claw

(3) Femur (4) Coxa

Space For Rough Work

52. Match the entries in Column – I with those of Column – II and choose the correct answer :

Column – I	Column – II
(A) Cytokinins	(P) Stress hormone
(B) Auxins	(Q) Ripening of fruits
(C) Abscisic acid	(R) Apical dominance
(D) Ethylene	(S) Bolting
	(T) Richmond Lang effect

	(A)	(B)	(C)	(D)
(1)	(T)	(R)	(P)	(Q)
(2)	(T)	(R)	(T)	(S)
(3)	(R)	(S)	(Q)	(P)
(4)	(Q)	(Q)	(T)	(R)

53. Left auricle receives pure blood from the

(1) Pulmonary veins (2) Pulmonary artery

(3) Superior venacava (4) Inferior venacava

54. The semi-digested food that moves down the oesophagus is known as

(1) Bolus (2) Chyme

(3) Rugae (4) Protein

55. During the transportation gases, to maintain the ionic balance chloride ions shifts from

(1) RBC's to plasma (2) Plasma to RBC

(3) Lungs to blood (4) Blood to lungs

Space For Rough Work

56. Read the statements (A) and (B). Choose the right one :

Statement (A) : Atherosclerosis is a disease characterised by the thickening of arterial walls.

Statement (B) : Deposition of cholesterol and triglycerides in the arterial walls causes atherosclerosis.

(1) Statement (A) is correct, (B) is wrong.

(2) Both the statements are correct but not related to each other.

(3) Both the statements are correct and (B) is the reason for (A).

(4) Both the statements are wrong.

57. Juxtaglomerular cells secrete $\xrightarrow{(A)}$ when there is a fall in $\xrightarrow{(B)}$ ion concentration. Choose the correct pair labelled as A and B.

(1) A : Renin B : Chloride

(2) A : Carbonic unhydrase B : Sodium

(3) A : ATPase B : Potassium

(4) A : Renin B : Sodium

58. Ileocaecal valve is present in between

(1) Colon and large intestine

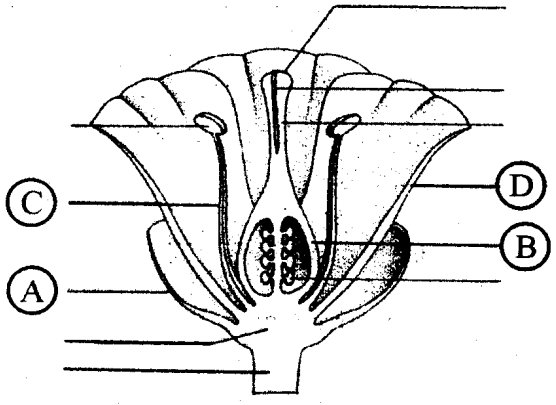
(2) Colon and small intestine

(3) Stomach and small intestine

(4) Cardiac stomach and fundus

Space For Rough Work

59. The diagram given below denotes the various parts of a typical flower. Identify the labelled parts A, B, C and D and choose the correct option :



(1) A = Petals, B = Sepals, C = Stamens, D = Pistil

(2) A = Sepals, B = Pistil, C = Petals, D = Stamens

(3) A = Sepals, B = Pistil, C = Stamens, D = Petals

(4) A = Sepals, B = Petals, C = Pistil, D = Stamens

60. Read the statements A and B and identify the correct choice from those given below :

Statement (A) : The egg of frog is moderately telolecithal.

Statement (B) : Sooner (or) later the cleavage pattern becomes irregular.

(1) Statement (A) is correct, (B) is wrong.

(2) Statement (B) is correct, (A) is wrong.

(3) Both the statements (A) and (B) are correct.

(4) Statement (A) is the reason for statement (B).

Space For Rough Work

A-1