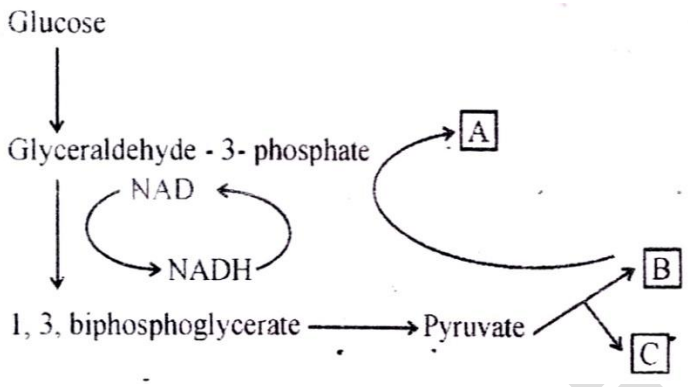
SRI CHAITANYA EDUCATIONAL INSTITUTIONS., INDIA
A.P, TELANGANA, KARNATAKA, TAMILNADU, MAHARASHTRA, DELHI, RANCHI
A Right Choice for the Real Aspirant
Central Office Madhapur - Hyd

BIOLOGY

1. Choose the correct combination of labeling the molecules involved in the pathway of anaerobic respiration in Yeast.



1) A-Acetaldehyde, B-CO_2, C-Ethanol

2) A-Ethanol, B-CO_2, C-Acetaldehyde

3) A-Ethanol, B-Acetaldehyde, C-CO_2

4) A-CO_2, B-Ethanol, C-Acetaldehyde

Ans: [3]

2. The breakdown of detritus into small particles by detrivores is called

1) Leaching 2) Humification

3) Fragmentation 4) Catabolism

Ans: [3]

3. The formation of two species from one ancestral species is known as

1) convergent evolution 2) phyletic evolution

3) allopatry 4) divergent evolution

Ans: [4]

4. A scrubber in the exhaust of a chemical industrial plant removes

1) Gases like ozone or methane

2) Gases like Sulphur dioxide

3) Gases like Nitrous oxide

4) Particulate matter of the size 5 micrometers or above

Ans: [2]

5. With respect to DNA fragmentation

Statement A : Gel electrophoresis and elution are two important processes.

Statement B : After staining with ethidium bromide it has to be exposed to U.V. light.

1) Only A is correct
2) Both A and B are correct statements
3) Only B is correct
4) Only A is correct and B is not correct

Ans: [2]

6. The pioneer species in Xerarch and Hydrach succession are respectively

1) Lichens and phytoplanktons
2) Lichens and sedges
3) Phytoplanktons and lichens
4) Lichens and rooted hydrophytes

Ans: [1]

7. Hibernating animals have tissues containing mitochondria with a membrane protein that accelerate electron transport while blocking the synthesis of ATP. What is the consequence of this?

1) Hibernating animals can synthesize fat instead of wasting energy of respiration

2) Energy is saved because glycolysis and the citric acid cycle shuts down

3) Pyruvate is converted to lactic acid by anaerobic fermentation

4) The energy of respiration is convberted into heat

Ans: [1]

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8. Which of the following conditions correctly describes the manner of determining the sex in the given example?

1) Homozygous sex chromosome XX produce male in Drosophila

2) XO type of sex determines male sex in grasshopper

3) Homozygous sex chromosome ZZ determine female sex in birds

4) XO condition in humans as found in Klinefelter's syndrome determines female sex

Ans: [2]

9. Natural killer lymphocytes are an example for

1) Physical barrier 2) Cytokine barrier

3) Cellular barrier 4)Physiological barrier

Ans: [3]

10. The codon AUG has dual function. It is an initiation codon and also codes for

1) Phenylalanine 2) Formaldehyde

3) Serine 4) Methionine

Ans: [4]

11. Identify the wrong statement

1) Alleles b and c also produce sugar

2) Alleles I^A and I^B produce sugars

3) When I^B and b or i are present only I^B is expressed

4) Both I^A and I^B are present together and they express because of co-dominance

Ans: [1]

12. Continued self pollination results in

1) Formation of unisexual flowers

2) Inbreeeding depression

3) Gametes loose vigour

4) Self incompatibility

Ans: [2]

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13. Which vector can clone a small fragment of DNA?

1) Plasmid
2) Bacterial artificial chromosome
3) Cosmid
4) Yeast artificial chromosome

Ans: [1]

14. Seeds without fertilization is obtained from

1) Polyembryony
2) Parthenocarpy
3) Dormancy
4) Apomixis

Ans: [4]

15. With respect to Eichorrnia :

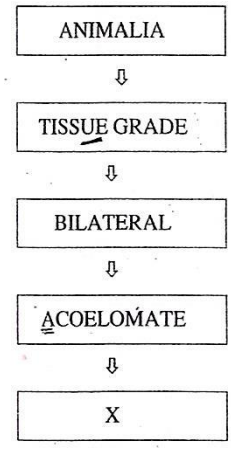
Statement X : It drains off Oxygen from water and is seen growing in standing water.

Statement Y : It is an indigenous species of our country.

1) Only statement X is correct and Y is wrong
2) Both statements X and Y are correct
3) Only statement Y is correct and X is wrong
4) Both statement X and Y are wrong

Ans: [1]

16. Identify the phylum X :



1) Hemichordata
2) Aschelminthes
3) Platyhelminthes
4) Ctenophora

Ans: [3]

17. During sewage treatment biogas produced includes

1) Hydrogen sulphide, Nitrogen, Methane

2) Methane, Oxygen, Hydrogen sulphide

3) Methane, Hydrogen sulphide, Carbon dioxide

4) Hydrogen sulphide, Methane, Sulphur oxide

Ans: [3]

18. The ancestors of modern day Frogs and Salamanders are

1) Icthyophis 2) Jawless fish

3) Amphioxus 4) Coelocanth

Ans: [4]

19. Hisardale is obtained by crossing

1) Horse with Donkey 2) Marino ewes with Bikaneri Rams

3) Superior Bull with Superior Cow 4) Bikaneri ewes with Marino Rams

Ans: [4]

20. The nitrogen base found only in DNA is also called

1) Uracil 2) 5-methyl uracil

3) Guanine 4) NH_4Cl

Ans: [2]

21. The hormone which acts on Sertoli cells and stimulates the process of spermiogenesis is

1) GnRH 2) Androgen 3) FSH 4) LH

Ans: [3]

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22. Which of the following sentence is correct?

1) In prokaryotes there are no membrane bound cell organelles.

2) Cells of all living organisms have a nucleus

3) Cells are formed de novo from abiotic materials

4) Both animal and plant cells have a well defined cell wall

Ans: [1]

23. The element responsible for the ring structure of chlorophyll and maintenance of ribosome structure is

1) Ca^{++} 2) Mg^{+} 3) S 4) K^{+}

Ans: [2]

24. One hormone hastens maturity period in juvenile conifers, a second hormone controls xylem differentiation, while the third increases the tolerance of plants to various stresses. They are respectively

1) Gibberellin, Auxin, Cytokinin 2) Auxin, Gibberellins, Cytokinin

3) Gibberellin, Auxin, ABA 4) Auxin, Gibberellins, ABA

Ans: [3]

25. Which of the following is not an ex-situ conservation?

1) Cryopreservation 2) Seed bank

3) Biosphere reserves 4) Botanical garden

Ans: [3]

26. If 30j of energy is trapped at producer level, then how much energy will be available to Peacock as food in the following chain?

Plant → Mice → Snake → Peacock

1) 0.3j 2) 0.03j 3)0.0003j 4)0.003j

Ans: [2]

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27. With respect to phenylketonuria identify which statement is not correct

1) It is a case of aneuploidy

2) It is an example of pleiotropy

3) Caused due to autosomal recessive trait

4) It is an error in metabolism

Ans: [1]

28. In a human foetus the limbs and digits develop after

1) 12 weeks 2) First trimester 3) 5th month 4) 8 weeks

Ans: [4]

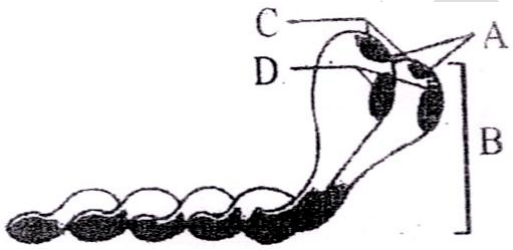
29. The 200 years old seed excavated from King Herod' palace at dead sea belong to

1) Dendrocalamus strictus 2) Lupine articus

3) Phoenix dactylifera 4) Strobilanthus kunthiana

Ans: [3]

30. Label the correct parts of the Myosin monomer :



1) A. Actin binding site B. Head

C. ATP binding site D. Cross arm

2) A. Cross arm B. Actin binding site

C. Head D. ATP binding site

3) A. ATP binding site B. Actin binding site

C. Head D. Cross arm

4) A. Head B. Cross arm

C. Actin binding site D. ATP binding site

Ans: [4]

31. Green house crops such as tomatoes and bell pepper produce higher produce higher yields. This is due to

1) CO_2 Enriched atmosphere leads to higher yields

2) CO_2 is a limiting factor to photosynthesis.

3) Due to diffused light in green house.

4) Tomatoes and bell pepper are not C_3 plants.

Ans: [1]

32. The organism which completely lack a cell wall and can live without oxygen are

1) Mycoplasmas 2) Archaebacteria

3) Methanogens 4) Thermoacidphiles

Ans: [1]

33. RNA polymerase-I transcribes eukaryotic ribosome which does not consist of

1) 5.8 $SrRNA$ 2) 28 $SrRNA$ 3) 18 $SrRNA$ 4) 5 $SrRNA$

Ans: [4]

34. Match the following :

1. VNTR	P. Largest gene
2. Introns and Exons	q. DNA fingerprinting
3. Dystrophin	r. Bulk DNA
4. Satellite DNA	s. Splicing

1) A-r, B-s, C-p, D-q 2) A-q, B-s, C-p, D-r

3) A-q, B-p, C-s, D-r 4) A-s, B-p, C-q, D-r

Ans: [2]

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35. Smack and Crack are produced from

1) Cannabis sativa and Papaver somniferum

2) Cannabis sativa and Atropa belladonna

3) Erythroxylon coca and Atropa belladonna

4) Papaver somniferum and Erythroxylon coca

Ans: [4]

36. Double lines in pedigree analysis show

1) Unaffected offspring 2) Sex unspecified

3) Normal mating 4) Consanguineous marriage

Ans: [4]

37. Progestasert is an IUD which makes the uterus unsuitable and cervix hostile to the sperms as they are

1) Hormone releasing IUDs 2) Copper releasing IUDs

3) Ideal contraceptive 4) Non-medicated IUDs

Ans: [1]

38. The chromosome number in meiocyte is 34. The organism could be

1) Ophioglossum 2) Dog 3) Onion 4) Apple

Ans: [4]

39. A fall in glomerular filtration rate activates

1) adrenal medulla to release adrenaline

2) juxta glomerular cells to release rennin

3) posterior pituitary to release vasopressin

4) adrenal cortex to release aldosterone

Ans: [2]

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40. In a 3.2 Kbp long piece of DNA, 820 adenine were found. What would be the number of cytosine bases?

1) 780 2) 1560 3) 740 4) 1480

Ans: [No Answer]

41. Assisted Reproductive Technology does not include

1) Zygote extra fallopian transfer 2) In vitro fertilization and embryo transfer

3) Artificial insemination 4) Gamete intra fallopian transfer

Ans: [1]

42. During menstrual cycle the cyclical changes takes place in

1) Perimetrium 2)Endomertrium

3) Corpus luteum 4) Myometrium

Ans: [2]

43. BOD refers to

1) The oxygen required for bacteria to grow in 1 litre of effluent.

2) The amount of oxygen consumed if all the organic matter in 1000 ml of water were oxidized by bacteria.

3) The amount of oxygen released if all the organic matter in 1000 ml of water were oxidized by bacteria.

4) The amount of oxygen released when all the organic matter was consumed by bacteria in 1 litre of water.

Ans: [2]

44. Sonalika and Kalyan Sona are high yielding varieties of

1) Sugarcane 2) Rice 3) Wheat 4) Maize

Ans: [3]

45. According to Robert Constanza, 50% of the total cost for ecosystem services goes to

1) Natrient cycling 2) Recreation

3) Soil formation 4) Climate regulation

Ans: [3]

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46. Choose the correct statement :

1) Oxygen is vital in respiration for removal of Hydrogen.

2) Pyruvate is formed in the mitochondrial matrix.

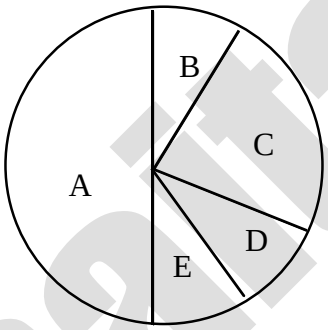
3) There is complete breakdown of glucose in fermentation.

4) During the conversion of Succinyl CoA to Succinic acid a molecule of ATP is synthesized.

Ans: [4]

47. Given below is the representation of the extent of global diversity of vertebrates. What groups does the portions represent?

VERTEBRATES



	A	B	C	D	E
1)	Birds	Reptiles	Fishes	Mammals	Amphibians
2)	Mammals	Birds	Fishes	Amphibian	Reptiles
3)	Fishes	Amphibian	Mammals	Birds	Reptiles
4)	Fishes	Mammals	Birds	Reptiles	Amphibian

Ans: [4]

48. Select the mismatch pair from the following :

1) Oxytocin - Contraction of uterine muscles

2) Insulin - Gluconeogenesis

3) Prolactin - Milk production in mammary glands

4) Glucagon - Glycogenolysis

Ans: [2]

49. Which of the following would most likely help to slow down the greenhouse effect ?

1) Converting tropical forest into grazing land for cattle.

2) Ensuring that all exess paper packaging is burned to ashes.

3) Redesigning land fill dumps to allow methane to be collected.

4) Promoting the use of private rather than public transport.

Ans: [3]

50. If an inheritable mutation is observed in a population at high frequency, it is referred to as

1) Sequence annotation 2) DNA polymorphism

3) Linkage 4) Expressed sequence Tag

Ans: [2]

51. Find the wrongly matched pair:

1) Lungs of the planet - Amazon rain forest

2) Endemism - Species confined to one region and also found in other regions

3) Hot spots - Regions with species richness

4) Alien species - Clarias gariepinus

Ans: [2]

52. The function of a selectable marker is

1) Eliminating transformants and permitting non-transformants.

2) Identify ori site

3) Elimination of non-transformants and permitting transfromants

4) To destroy recognition sites

Ans: [3]

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53. The T-wave in an ECG represents

1) Depolarization of ventricles

2) Electrical excitation of atria

3) Beginning of systole

4) Return of the ventricles from excited state

Ans: [4]

54. In prokaryotes the Glycocalyx when it is thick is called

1) Capsule 2) Slime layer

3) Cell Wall 4) Mesosome

Ans: [1]

55. Which of the following is not correct in mass flow hypothesis?

1) As hydrostatic pressure in the phloem sieve tube increases pressure flow stops and sap is accumulated in phloem

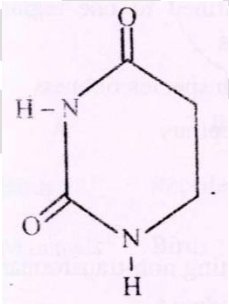
2) The sugar is moved bidirectionally

3) The sugar which is transported is sucrose

4) Loading of the phloem sets up a water potential gradient that facilitates the mass movement in the phloem

Ans: [1]

56. Identify this structure :



1) Adynylic Acid 2) Uracil

3) Cholesterol 4) Adenosine

Ans: [2]

57. In 125 amino acid sequence if the codon for 25th amino acid is mutated to UAA, then

1) a polypeptide of 24 amino acids is formed

2) a polypeptide of 124 amino acids is formed

3) No polypeptides are formed

4) a polypeptides of 25 amino acids is formed

Ans: [1]

58. Three copies of chromosome – 21 in a child with Down's syndrome have been analysed using molecular biology technology to detect any possible DNA polymorphism with reference to different alleles located on chromosome – 21. Results showed that out of 3 copies 2 of the chromosome of the child contain the same alleles as one of the mother's alleles. Based on this when did the non-disjunction event most likely occur?

1) Paternal meiosis – I
2) Maternal meiosis – I
3) Paternal meiosis – II
4) Maternal meiosis – II

Ans: [4]

59. Which of the following is not correct with respect to malaria?

1) RBC's rupture and release haemozoin which causes chills

2) Sporozoites multiply in blood

3) Female anopheles mosquito is the vector

4) Malignant malaria is caused by Plasmodium falciparum

Ans: [2]

60. Ernest chain and Howard Florey's contribution was

1) Establishing the potential of penicillin as an effective antibiotic

2) Discovery of Streptokinase

3) Production of genetically engineered insulin

4) Discovery of DNA sequence

Ans: [1]

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