KENDRIYA VIDYALAYA SANGATHAN, RAIPUR REGION

SESSION ENDING EXAM (2024-25)

MARKING SCHEME

SUBJECT: - BIOLOGY (044)

Section A :- (1 Mark Questions)

1. Ans – D
2. Ans. - D
3. Ans. - D
4. Ans. - D
5. Ans. – A
6. Ans. - 2
7. Ans. - C
8. Ans. – A
9. Ans.-A
10. Ans.-D
11. Ans. – A
12. Ans. - D
13. Ans. - A
14. Ans. - A
15. Ans. - B
16. Ans. B

Section B: - (2 Marks Questions)

17. Ans. A. Red dinoflagellates – (½), Example: *Gonyaulax* – (1/2). Toxins released may kill many marine animals like fishes. (1)

OR

Lichens- (1/2) where the algae gets minerals and water (½)
Mycorrhiza-(1/2) where the roots of gymnosperms increase rate of absorption of water sand minerals as fungi acts as root hairs-(1/2)

18. Ans. competitive inhibition – (1) and non-competitive inhibition by a poison – (1)

OR

Any two points of difference (1+1)

19. Ans. mitochondrial matrix – (1/2), correct reactants-(1/2), correct enzyme and ion-(1/2), correct product-(1/2)

20. Ans. – Gibberellins – (1/2), gibberellins increases the length of the stem – (1/2). Decapitation breaks the apical dominance – (½), to develop lateral branches-(1/2)

21. Ans. - Some specialised cells in our body like macrophages and leucocytes in blood exhibit amoeboid movement – (1 /2 +1/2). Cytoskeletal elements like microfilaments, movement of cytoplasm are also involved in amoeboid movement – (½ + ½)

OR

Structure of myosin with diagram (2)

Section C :- (3 Marks Questions)

22. Ans. (For every correct point, award ½)

	Chlorophyceae (any three)	Phaeophyceae (any three)	Rhodophyceae (any three)
Stored Food Material	Starch	Mannitol, Laminarin	Floridean Starch
Nature of cell wall	Cellulose	Cellulose & algin	Cellulose, Pectin, Polysulphate esters

23.

a. Ans. Open Vascular Bundle(½)
b. Ans. Pericycle (½)
c. Ans. Radial (½)
d. Ans. – Conjoint (½)
e. Ans. Endodermis (½)
f. Ans. – Endarch (½)

24. Ans. a)Plasmid – (1/2), it is small circular extra chromosomal DNA-(1/2)
b) Glycocalyx (1) and fimbriae(1) with brief explanation

25. Ans. – a. Kranz anatomy- brief explanation – (1)

b. In the bundle sheath cells, the C4 acids are broken down to release CO_2 and a 3-carbon molecule hence CO_2 remain constantly available .The mesophyll cells lack RuBisCO enzyme – (1)

c. photorespiration does not occur – (1)

26. Ans. Osmoreceptors in the body are activated by changes in blood volume. An excessive loss of fluid from the body can activate these receptors which stimulate the hypothalamus to release antidiuretic hormone (ADH) or vasopressin from the neurohypophysis. ADH facilitates water reabsorption from latter parts of nephron– (1)

A fall in glomerular blood flow/glomerular blood pressure/GFR can activate the JG cells to release renin which converts angiotensinogen in blood to angiotensin I and further to angiotensin II. Angiotensin II, being a powerful vasoconstrictor, increases the glomerular blood pressure and thereby GFR – (1)

An increase in blood flow to the atria of the heart can cause the release of Atrial Natriuretic Factor (ANF). ANF can cause vasodilation (dilation of blood vessels) and thereby decrease the blood pressure. ANF mechanism, therefore, acts as a check on the renin-angiotensin mechanism – (1)

27. Ans. A. Fibrous joints: - it do not allow any movement. This type of joint is shown by the flat skull bones which fuse end-to-end with the help of dense fibrous connective tissues in the form of sutures, skull bones- (1)

B. Cartilaginous joints: - the bones involved are joined together with the help of cartilages. The joint between the adjacent vertebrae in the vertebral column is of this pattern and it permits limited movements, vertebral bones – (1)

C. Synovial joints are characterised by the presence of a fluid filled synovial cavity between the articulating surfaces of the two bones. Such an arrangement allows considerable movement. These joints help in locomotion and many other movements, any one example–(1)

28. Ans. - hypothyroidism -goitre – (½+1/2), hyperthyroidism-Graves' disease – (½ +1/2)

Hypothyroidism during pregnancy causes defective development and maturation of the growing baby leading to stunted growth, mental retardation, low intelligence quotient, abnormal skin, deaf-mutism, etc is cretinism – (1)

Thyrocalcitonin- lowers blood calcium level- (½+1/2)

Section D :- (4 Marks Questions)

29. a. Ans. – as they are poikilotherms-1

b. Ans. Water needed for fertilisation. – (1)

c. Gradually tail degenerate in tadpole, gills are replaced by lungs. (1 +1)

OR

d.Ans. To maintain balance in the ecosystem as a member of food chain and food web – (1) and as food for humans-(1)

30. a. Ans. – 2 & 4 – (½+1/2)

b. Ans. Asexually reproducing organisms – (1)

c. i) telophase – 4n and 4S(1/2+1/2)

ii) S phase- 2n and 4S (1/2+1/2)

OR

G0 phase-(1/2), brief explanation-(1), heart cell –(1/2)

Section E :- (5 marks questions)

31. Ans.a) all categories of classification together constitute the taxonomic hierarchy.(1)

b) Protonema – It is green, creepy, branched and filamentous structure with no sex organs. Leafy stage – It consists of upright slender axis bearing spirally arranged leaves. This stage produces sex organs. Any 2 points – (2)

c) Development of zygote in young embryo in female gametophyte and female gametophyte remains attached to parent sporophyte –(2)

OR

Ans :- a) AWARD ½ MARK FOR EVERY CORRECT POINT. Any 3 points. (3)

Class	Chondrichthyes	Osteichthyes
Habitat	Marine	Marine and fresh Water
Air Bladder	Absent	Present
Operculum	Absent	Present

Scales	placoid scale	cycloid/ctenoid scales
Position of Mouth	Ventral	Terminal
Example	Scoliodon	Exocoetus

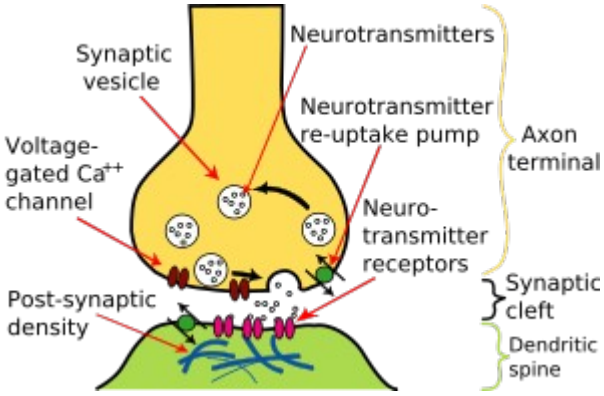
b) Aves are vertebrates that can fly by their wings, while mammals cannot fly.
Aves have hollow bones and adjustable forelimbs, while mammals do not. // any 2 other points (2)

32. a) Page 145 of NCERT old book- (1*3=3)
b) i) X- Mitochondria, Y- chloroplast –(1/2+1/2)
ii) Mitochondria produces ATP and chloroplast produces glucose-(1)

OR

a) P- nucleus
Q-ER
R- Golgi apparatus
S- Centriole
T- Lysosome
U- Cytoplasm (1/2*6=3)
b) P- controls the cell
Q- Synthesis of lipids and proteins
R- Packaging and despatch of materials
U- Equally distribute4s gases and substances by streaming (1/2*4=2)

33. Ans. – a) Cranial meninges are three in number consisting of an outer layer called dura mater, a very thin middle layer called arachnoid and an inner layer (which is in contact with the brain tissue) called pia mater. – any2- (½+1/2)

b) 

//chemical impulse transmission from Pre Synaptic membrane, synaptic Cleft to post synaptic membrane- correctly explained – (2)

c) Electrical synapse – fast, chemical synapse- slow// any other point (1)

OR

a) Adrenaline by adrenal
b) Estrogen by ovary
c) Oxytocin by post. Pituitary
d) Glucagon by pancreas
e) Melatonin by pineal- (½*10=5)