

SSLC Model Exams. 2018.

Biology. Answer key. Mark.

1. b. shark - lateral line - 1
2. Darwin - Natural Selection - 1/2
De Vries - Mutation - 1/2
3. a. centre of thought, intelligence, memory and imagination - 1/2
c. Sensation - 1/2
4. a. alleles - 1/2
c. tRNA - 1/2
5. A. Acromegaly - 1/2
B. Gigantism - 1/2
6. b. The subtotal of genetic material present in an organism is called its genome - 1
7. a. Alzheimers disease - 1
b. Accumulation of an insoluble protein in the nervous tissue of brain and destruction of neurons. - 1
8. a. Bacteria - 1/2 b. Mosaic - 1/2
c. Fungus - 1/2 d. coconut tree. - 1/2
4 x 1/2 = 2
9. a. A group. - 1
b. A group - 1
10. (TR) (tR) (Tr) (tr) 4 x 1/2 = 2

Primary	Secondary
<p style="text-align: center;">↓</p> <p>a. mucus in the respiratory tract</p> <p>d. Hydrochloric acid in the stomach.</p>	<p style="text-align: center;">↓</p> <p>b. inflammatory response</p> <p>c. phagocytosis</p>

4 x 1/2 = 2

18. Killed germs - cholera. -1

cellular parts of pathogens - Hepatitis B -1

Neutralised toxin - tetanus. -1

19. a. Their retina lack cone cells that can identify red and green colour. -1

b. Vit A deficiency cause retinal deficiency and thereby rodhopsin deficiency. this results in night blindness. -1

c. More photoreceptors are seen in yellow spot. -1

20. a. Haemoglobin / protein -1

b. mutation of genes that determine the amino acid sequence of the proteins/Hb. -1

c. Shows branching of organisms from a common ancestor through evolution. -1
Man and chimpanzee are closely related.

21. a. Eustachian tube

Protects the tympanum by balancing the air pressure on its either side.

b. Cochlea - Helps in hearing $8 \times \frac{1}{2} = 4$

c. Tympanum - causes vibration in accordance with sound waves.

d. Auditory nerve - carry impulses from cochlea to cerebrum.

22. a. A. Parathormone. D. Calcitonin $\frac{1}{2} + \frac{1}{2} = 1$

b. C. Thyroid B. Parathyroid. $\frac{1}{2} + \frac{1}{2} = 1$

c. A. Reabsorb Ca from kidney $\frac{1}{2}$
Prevent accumulation of Ca in bones $\frac{1}{2}$

D. stores excess blood Ca in bones. $\frac{1}{2}$
Prevents the mixing of Ca from bones to blood. $\frac{1}{2}$

- a. Sickle cell anaemia. -1
 b. Defect in the sequence of amino acids in haemoglobin - Genetic defect. -1

13. a. Separates the needed gene

↓
 joins the new gene to the separated bacterial DNA

↓
 introduce DNA with ligated gene to the target cell. - 1/2

b. ligase. - 1/2

14. Hypothalamus - Vasopressin - Diabetes insipidus
 Pancreas - Insulin - Diabetes mellitus
 thyroid - thyroxine - cretinism. $6 \times \frac{1}{2} = 3$

15. a. Dengue virus. -1

b. Mosquito -1

c. Don't allow water to be stagnant / -1
 Keep surrounding clean - Any two relevant ideas to prevent mosquito breeding or mosquito bite

16. a. DNA nucleotide -1

b. Adenine -1

c. Uracil, Ribose sugar $\frac{1}{2} + \frac{1}{2} = 1$

17. d - Chemical evolution

↓
 a - Formation of organic compounds

↓
 e - Prokaryotic cells

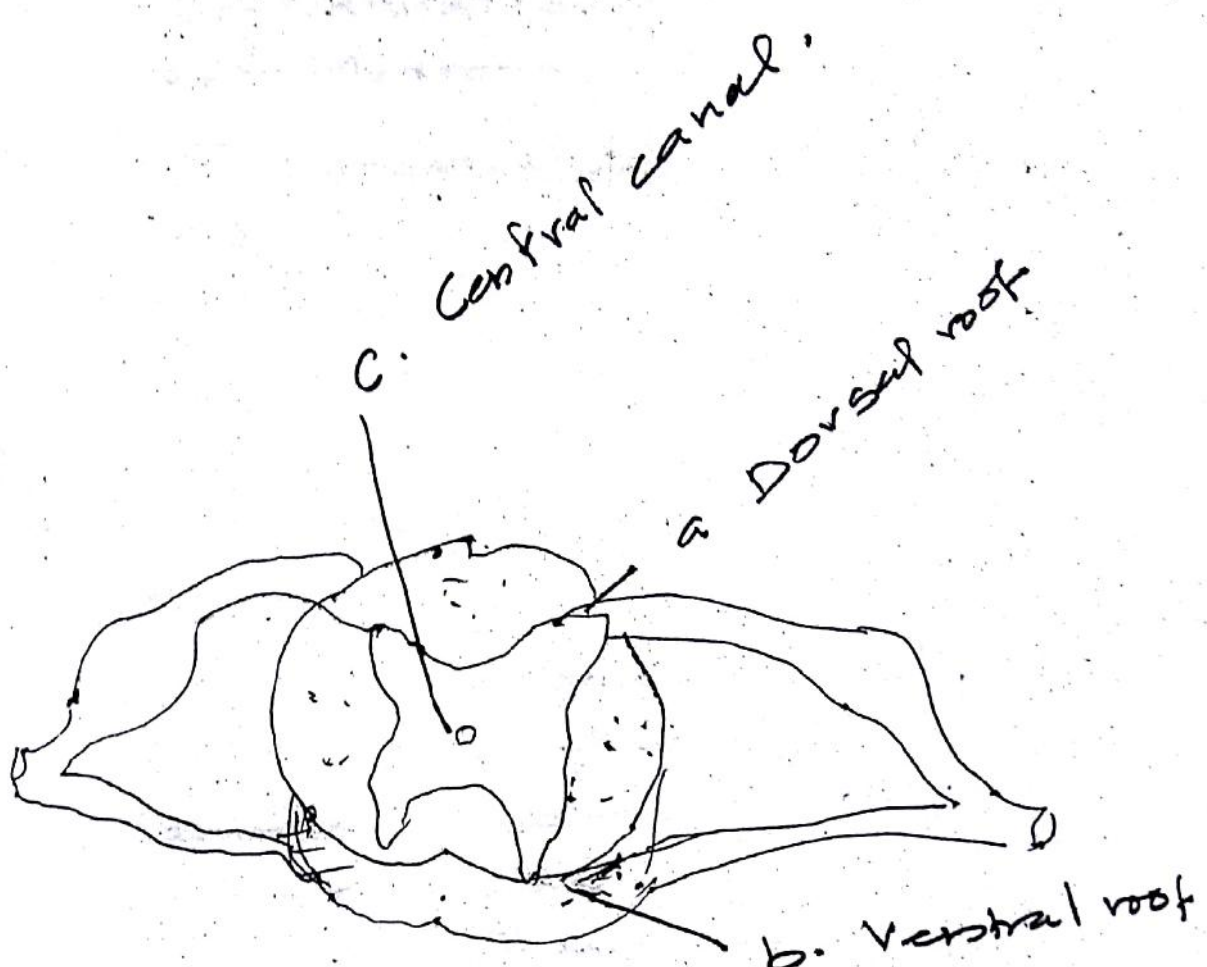
↓
 b - Eukaryotic cells

↓
 f - ~~multicellular organisms~~ colonies of eukaryotic cells

↓
 c - Multicellular organisms. $6 \times \frac{1}{2} = 3$

23. 2

23.



- a. Dorsal root.
- b. Ventral root.
- c. Central canal.