

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS X EXAMINATION

MAY 2016

Biology Paper I

Time: 35 minutes Marks: 25

INSTRUCTIONS

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 25 only.
4. In each question there are four choices A, B, C, D. Choose ONE. On the answer grid black out the circle for your choice with a pencil as shown below.

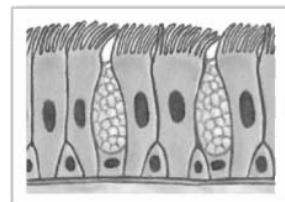
Correct Way		Incorrect Ways	
1	<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D	1	<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D
		2	<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D
		3	<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D
		4	<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input type="radio"/> D

Candidate's Signature

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the circles.

1. The given type of cells are found in all of the following parts of the respiratory tract EXCEPT

- A. trachea.
- B. alveolus.
- C. bronchus.
- D. nasal cavity.



2. The table below shows the percentage of oxygen gas in inspired and expired air.

Gas in Air	Inspired Air (%)	Expired Air (%)
Oxygen	21.0	16.4

The difference in the amount of oxygen gas shown above is due to the

- A. storage of oxygen gas in lung tissues.
 - B. non-reactivity of oxygen gas with the blood.
 - C. liberation of oxygen gas as a metabolic waste.
 - D. utilization of oxygen gas in energy production.
3. With respect to habitat, xerophytes are plants which successfully survive in
- A. deserts.
 - B. glaciers.
 - C. fresh water.
 - D. marine water.
4. With reference to the structure of nephron, the production of either concentrated or dilute urine depends upon the
- A. depth of cup in the Bowman's capsule.
 - B. number of branches of the collecting duct.
 - C. length of descending limb of the loop of Henle.
 - D. diameter of blood capillaries in the glomerulus.
- 5.
- I. Thalamus acts as a relay centre between various parts of brain and spinal cord.
 - II. Hypothalamus controls secretion of pituitary gland.
 - III. Midbrain connects forebrain and hindbrain.

According to the given information, the part of brain that creates a link between nervous system and endocrine system is

- A. I only.
- B. II only.
- C. I and III.
- D. II and III.

6. A man is suffering with loss of appetite and sleeplessness.

Which of the following parts of this person's brain seems to be affected?

- A. Cerebrum
- B. Cerebellum
- C. Hypothalamus
- D. Medulla oblongata

7. There are certain animals that search for their prey at night.

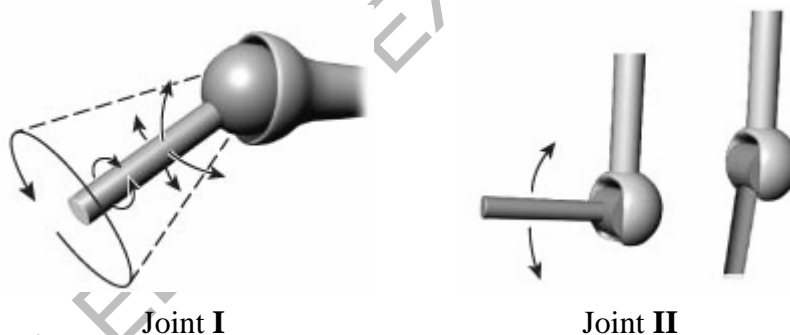
The eyes of such animals have more

- A. iodopsin.
- B. rhodopsin.
- C. aqueous humour.
- D. vitreous humour.

8. An excessive production of thyroxine in humans may result in

- A. enlarged internal organs.
- B. high blood calcium level.
- C. increased energy production.
- D. more reabsorption of water by kidneys.

9. The diagrams below show two types of joints found in human beings.



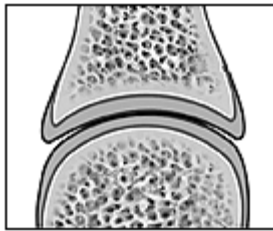
Which of the following is CORRECT about the location of these joints in our body?

	Joint I	Joint II
A	Vertebral column	Elbow
B	Elbow	Shoulder
C	Shoulder	Vertebral column
D	Shoulder	Elbow

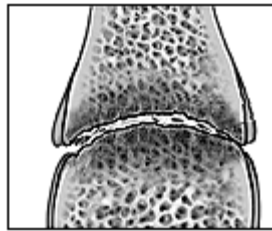
10. Which of the following is CORRECT about the attachment of origin and insertion?

	Origin	Insertion
A	Attached with immoveable bone	Attached with immoveable bone
B	Attached with moveable bone	Attached with moveable bone
C	Attached with immoveable bone	Attached with moveable bone
D	Attached with moveable bone	Attached with immoveable bone

11. The diagrams below show two states of a joint.



Normal Joint

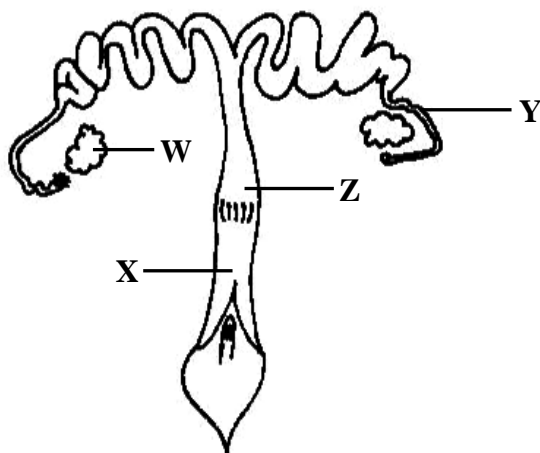


Diseased Joint

The above diseased condition of the joint has occurred due to the

- A. lack of collagen fibres.
 - B. loss of calcium and phosphorus.
 - C. low production of synovial fluid.
 - D. deficiency of yellow bone marrow.
12. For pollination through insects, a plant should have
- A. small sized flowers.
 - B. pinhead shaped stigma.
 - C. stamen hanging out of petals.
 - D. light and smooth pollen grains.

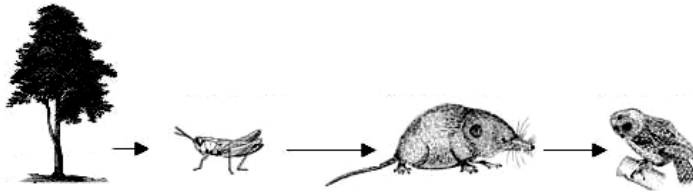
13. The diagram below shows reproductive system of a female rabbit.



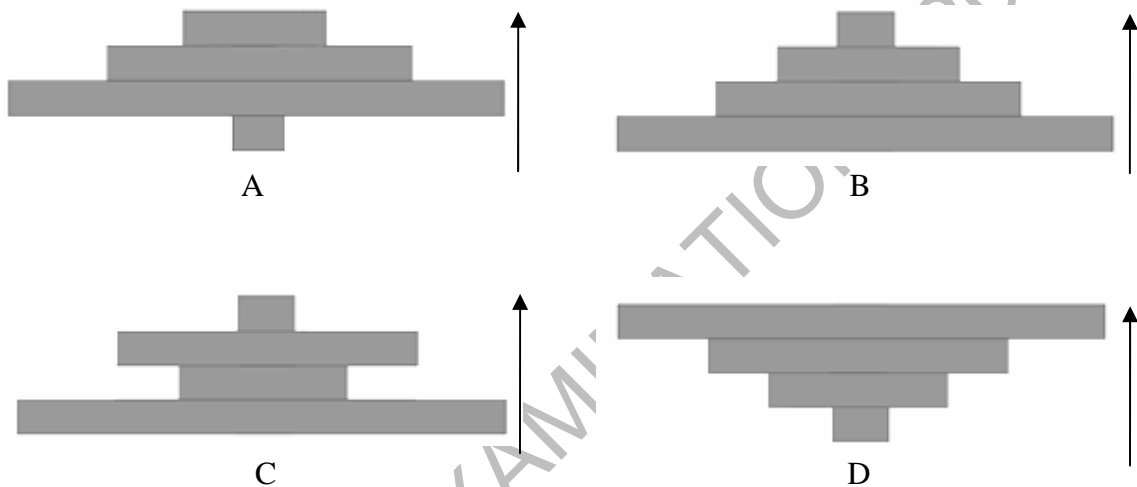
In which of the parts labelled as **W** to **Z** does fertilisation of egg and sperm take place?

- A. W
 - B. X
 - C. Y
 - D. Z
14. Formation of a sperm from a spermatid involves
- A. first meiotic division.
 - B. formation of acrosome.
 - C. second meiotic division.
 - D. increase in size of nucleus.
15. If the sequence of nucleotides of the parent strand in a DNA molecule is CTGTTAG, then the daughter strand would have the sequence as
- A. TCACCGA
 - B. GACAATC
 - C. UCACCGA
 - D. GACAAUC

20.



For the given food chain, the pyramid of numbers will be shown as



21. The process which makes use of carbon dioxide present in air is

- A. burning of fossil fuels.
- B. production of glucose.
- C. assimilation in animals.
- D. breakdown of organic matter.

22. Cavities that appear in dough during bread making is due to the

- A. production of oxygen.
- B. evaporation of alcohol.
- C. release of carbon dioxide.
- D. liberation of water vapours.

23. Production of single-cell proteins is not affected by

- A. variation in seasons.
- B. change in temperature.
- C. purity of microbial culture.
- D. availability of microorganisms.

24. Which of the following drugs is obtained from plants?
- A. Aspirin
 - B. Penicillin
 - C. Morphine
 - D. Streptomycin
25. Which of the following should be taken by a person suffering from sore throat to treat the disease?
- A. A vaccine
 - B. A narcotic
 - C. An analgesic
 - D. An antibiotic

AKU-EB MAY EXAMINATIONS 2016