AGA KHAN UNIVERSITY EXAMINATION BOARD

HIGHER SECONDARY SCHOOL CERTIFICATE

CLASS XII

ALTERNATE TO PRACTICAL (ATP)

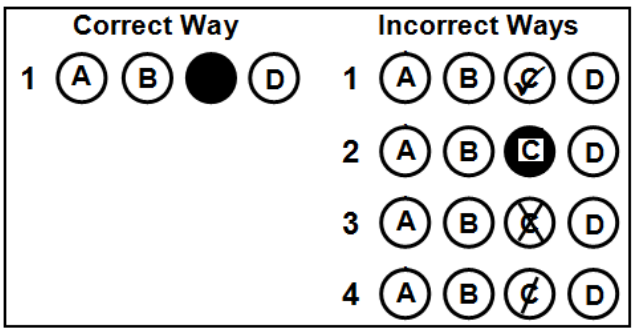
MODEL EXAMINATION PAPER 2021

Biology Paper III

Time: 25 minutes Marks: 15

INSTRUCTIONS

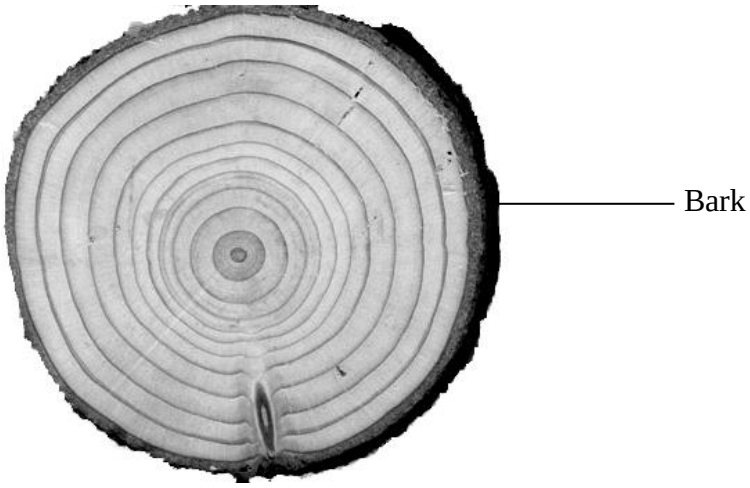
1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 15 only.
4. In each question, there are four choices A, B, C, D. Choose ONE. On the answer grid, black out the circle for your choice with a pencil as shown below.



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.
7. You may use a scientific calculator if you wish.

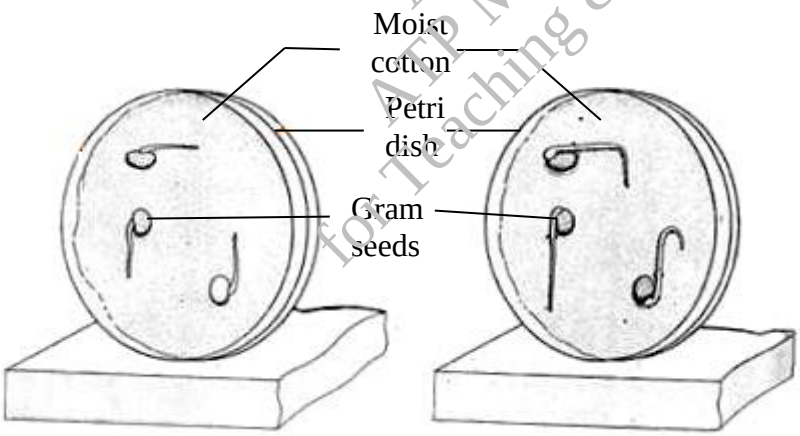
1. The given diagram shows the cross section of a tree.



With reference to the given cross section, the age of the tree is

A. 10 years.
B. 11 years.
C. 12 years.
D. 13 years.

2. The given diagram shows an experimental set-up.

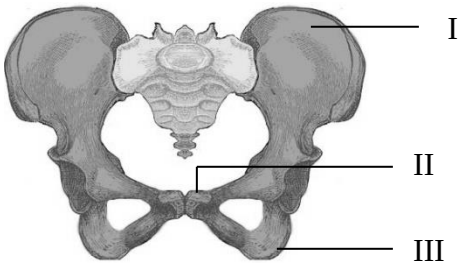


Result after two days

The given set-up demonstrates the phenomena of

A. positive geotropism and positive phototropism.
B. negative geotropism and positive phototropism.
C. positive geotropism and negative phototropism.
D. negative geotropism and negative phototropism.

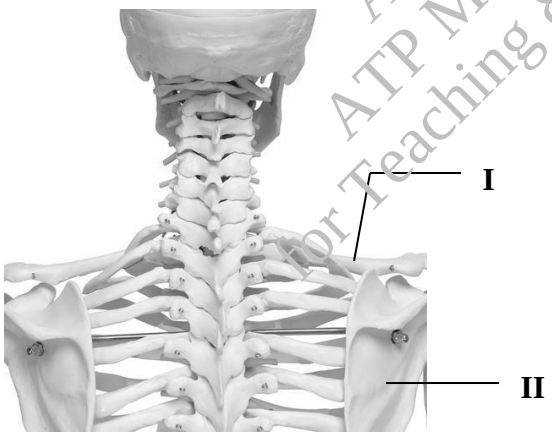
3. The given diagram shows the bones of the human pelvic girdle.



The option that identifies bones **I**, **II** and **III** is

	I	**II**	**III**
A	ischium	ilium	pubis
B	ilium	pubis	ischium
C	pubis	ischium	ilium
D	pubis	ilium	ischium

4. The given diagram shows a part of model of the human skeleton.



The option that identifies the bones **I** and **II** is

	I	**II**
A	clavicle	scapula
B	ribs	scapula
C	clavicle	humerus
D	ribs	humerus

5. The head of humerus bone articulates with the

   A. acetabulum of the scapula.
   B. glenoid cavity of the scapula.
   C. acetabulum of the coxal bones.
   D. glenoid cavity of the coxal bones.

6. The knee joint is formed by the articulation of

   A. distal part of the femur with the tibia and kneecap.
   B. distal part of the femur with the radius and kneecap.
   C. proximal part of the femur with the tibia and kneecap.
   D. proximal part of the femur with the radius and kneecap.

7. In chickens, the allele for a pea comb (**A**) is dominant to the allele for a single comb (**a**). A mother with the genotype **Aa** and a father with the genotype **Aa** produces an offspring.

   The percent chance that the offspring will have a single comb is

   A. 0%
   B. 25%
   C. 50%
   D. 75%

8. In a pea plant, tall (**T**) is dominant to short (**t**), and green peas (**G**) are dominant to yellow peas (**g**). A tall plant with yellow peas (**Ttgg**) is crossed with a short plant with green peas (**ttGg**).

   The probability that the offspring will be short with yellow peas is

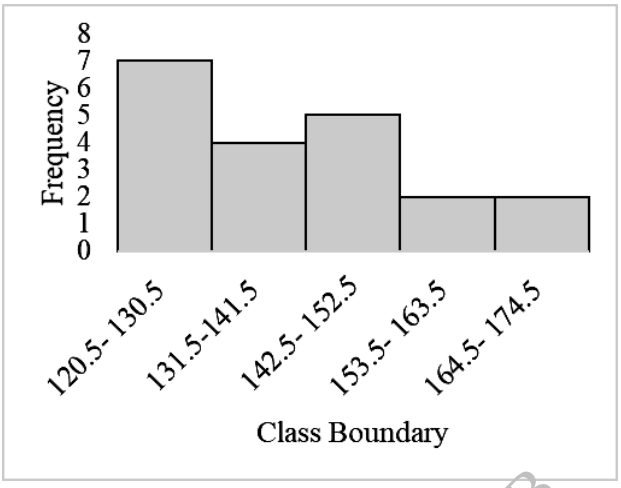
   A. 1/2.
   B. 1/4.
   C. 3/4.
   D. 3/16.

9. Given is the data of height (cm) obtained from a sample of the human population.

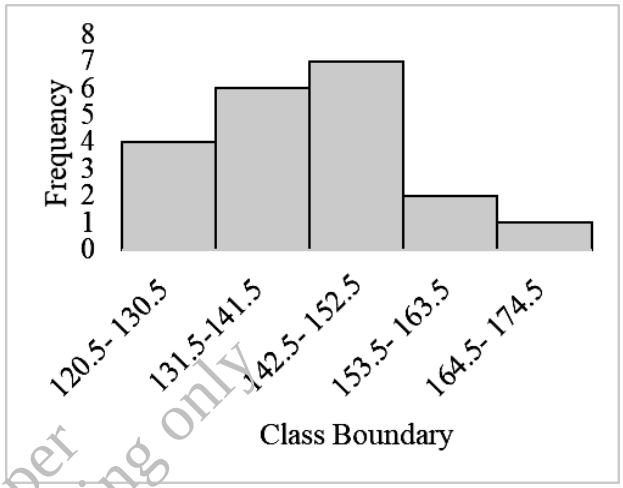
120 120.9 121 125.4 125.6 129.8 130.1 133.7 134 135.6

139.5 143.5 144.1 145.6 146.1 152.3 154. 9 160.2 165.8 170.5

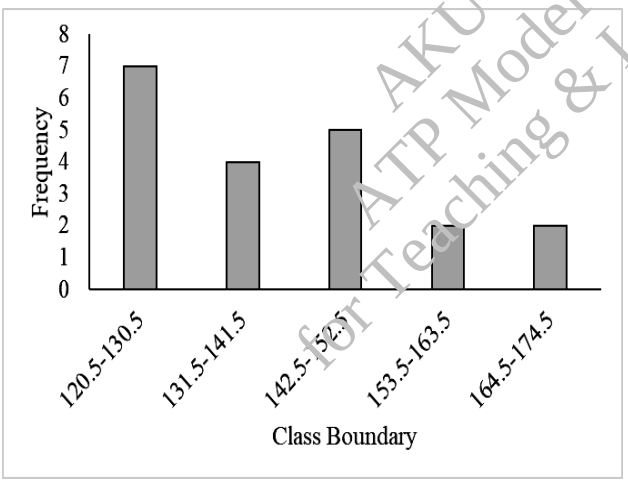
The graph which represents the given data is



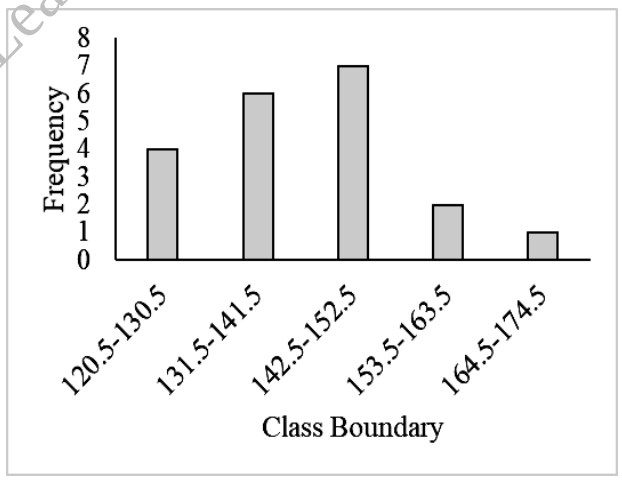
A



B



C



D

10. The given table shows the data provided by a blood bank. The total number of donors is 50.

(**Note:** In a pie chart, each of the donor number will be expressed as a percent of the whole.)

Blood Type	**A**	**B**	**AB**	**O**
Number of Donors	n	10	n	n

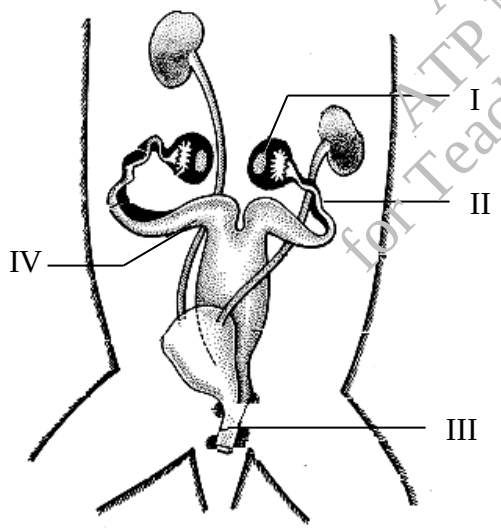
What will be the percent of the whole for the donor of blood group **B**?

A. 5%
B. 20%
C. 40%
D. 72%

11. Which of the following is NOT an example of continuous variation in humans?

A. height.
B. intelligence.
C. blood group.
D. body weight.

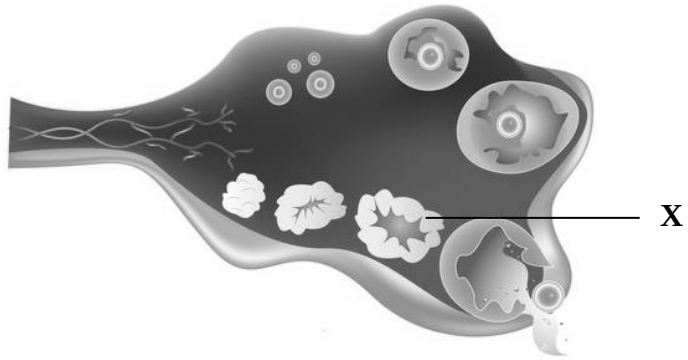
12. The given diagram shows the model of the reproductive system of a female rabbit.



The labelled part in which the implantation of the embryo takes place is

A. I.
B. II.
C. III.
D. IV.

13. The given diagram shows the microscopic image of the cross section of a mammalian ovary.



The labelled structure **X** is identified as

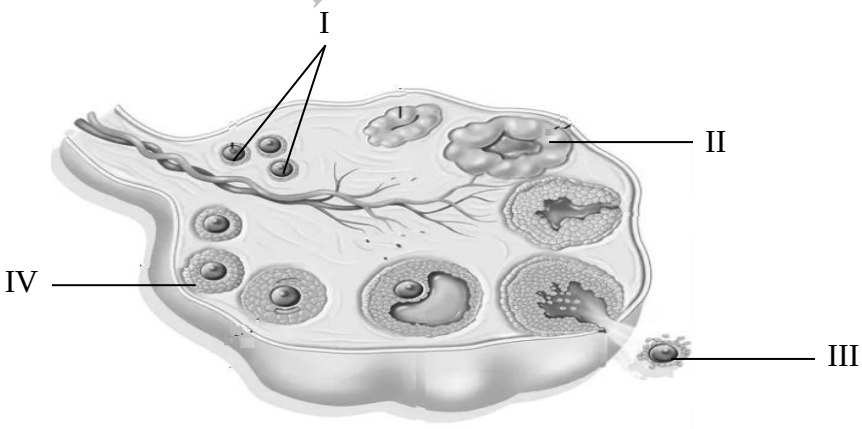
A. corpus luteum.
B. primary follicle.
C. corpus albicans.
D. secondary follicle.

14. The part(s) of central medullar region of the mammalian ovary which can be seen under the microscope is/ are

I. follicles
II. blood vessels
III. nerves

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

15. The given diagram shows the microscopic image of a cross section of mammalian ovary.



The structure that produces progesterone is labelled as

A. I.
B. II.
C. III.
D. IV.

END OF PAPER

Please use this page for rough work