

**AGA KHAN UNIVERSITY EXAMINATION BOARD**

**HIGHER SECONDARY SCHOOL CERTIFICATE**

**CLASS XI**

**ALTERNATE TO PRACTICAL (ATP)**

**MODEL EXAMINATION PAPER 2021**

**Biology Paper III**

**Time: 25 minutes    Marks: 15**

**INSTRUCTIONS**

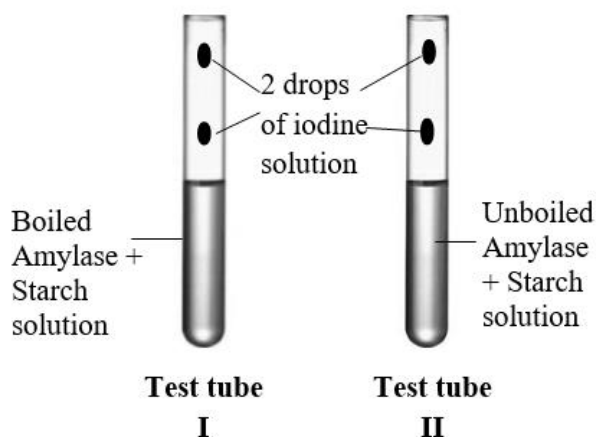
1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 15 only.
4. In each question there are four choices A, B, C, D. Choose ONE. On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

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

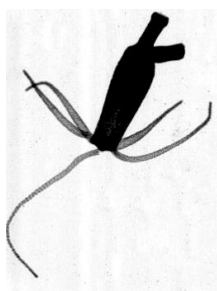
- The given experimental setup is used to investigate the effect of boiled and unboiled amylase on starch solution and confirmation through iodine test.



The results (colour change) of both test tubes **I** and **II** would be

	Test tube I	Test tube II
A	blue-black	blue-black
B	blue-black	no colour change
C	no colour change	no colour change
D	no colour change	blue-black

- Given is the diagram of an invertebrate specimen observed under the microscope.



The option that identifies the animal and its distinguishing feature is

	Identification	Distinguishing Feature
A	sycon	flagella
B	sycon	tentacles with stinging cells
C	hydra	flagella
D	hydra	tentacles with stinging cells

3. Given is the diagram of an invertebrate specimen.



The option that identifies the animal and its distinguishing feature is

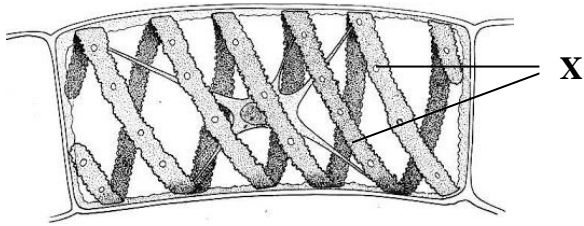
	Identification	Distinguishing Feature
A	roundworm	metameric segmentation
B	earthworm	metameric segmentation
C	roundworm	unsegmented
D	earthworm	unsegmented

4. In the process of Gram staining, the CORRECT sequence of steps used to stain bacteria is

fixation ↓ treatment with alcohol ↓ treatment with iodine ↓ staining by crystal violet ↓ staining by safranin	fixation ↓ staining by crystal violet ↓ treatment with iodine ↓ treatment with alcohol ↓ staining by safranin	fixation ↓ staining by safranin ↓ treatment with iodine ↓ staining by crystal violet ↓ treatment with alcohol	fixation ↓ staining by safranin ↓ staining by crystal violet ↓ treatment with iodine ↓ treatment with alcohol
A	B	C	D

5. In the Gram staining technique, when alcohol is applied on the bacterial smear, the smear will appear
- pink.
  - violet.
  - dark blue.
  - colourless.

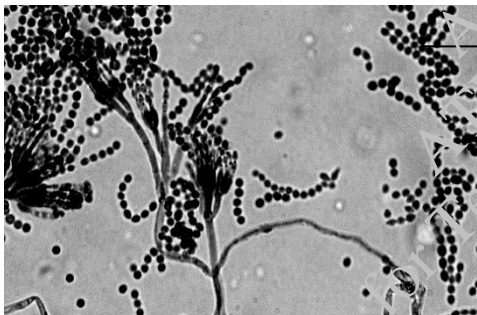
6. The given diagram shows a type of green alga.



The option that identifies the algal species and structure **X** is

	Algal Species	Structure X
A	spirogyra	cytoplasmic strand
B	nostoc	cytoplasmic strand
C	spirogyra	chloroplast
D	nostoc	chloroplast

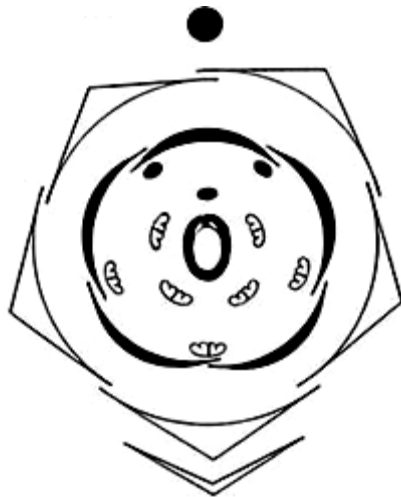
7. The given diagram shows a fungus under light microscope.



The option that identifies the fungus and structure **X** is

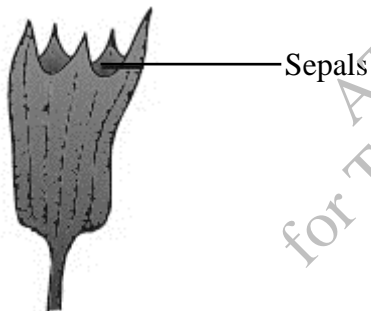
	Identification	Structure X
A	rhizopus	conidia
B	penicillium	sporangiophore
C	rhizopus	sporangiophore
D	penicillium	conidia

8. Given is the floral diagram of the flower *Cassia fistula*.



The arrangement of sepals and petals in the flower is

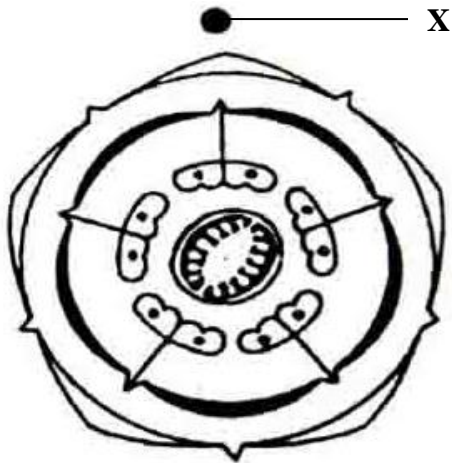
- A. valvate.
  - B. twisted.
  - C. vexillary.
  - D. imbricate.
9. The given diagram shows the calyx of a flower.



In the floral formula of the given diagram, the calyx will be represented as

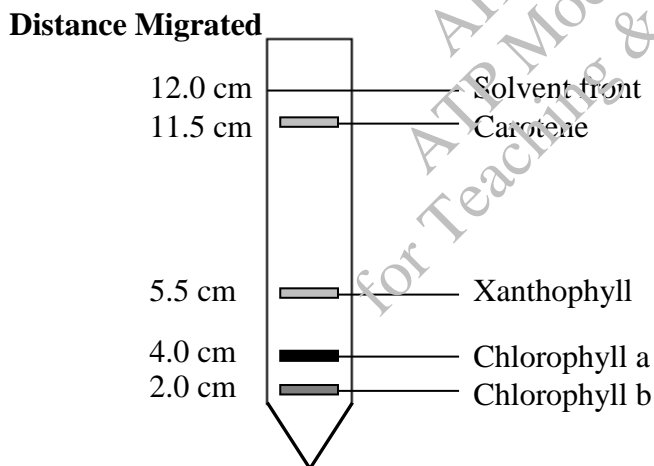
- A. C5
- B. C(5)
- C. K5
- D. K(5)

10. Given is the floral diagram of the flower *Datura alba*.



In the given diagram, X represents the position of the

- A. calyx with respect to the floral axis.
  - B. ovary with respect to the floral axis.
  - C. stamens with respect to the floral parts.
  - D. mother axis with respect to the floral parts.
11. The given diagram shows a paper chromatogram.



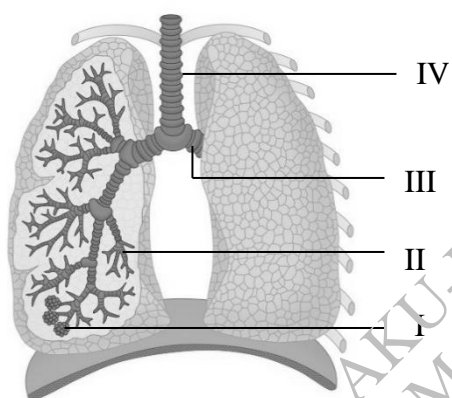
Based on the given information, the  $R_f$  value for carotene is

- A. 11.5
- B. 6.00
- C. 0.95
- D. 0.66

12. The option that identifies the mobile and stationary phase of paper chromatography is

	Mobile Phase	Stationary Phase
A	solvent	capillary tube
B	solvent	filter paper
C	pigment solution	capillary tube
D	pigment solution	filter paper

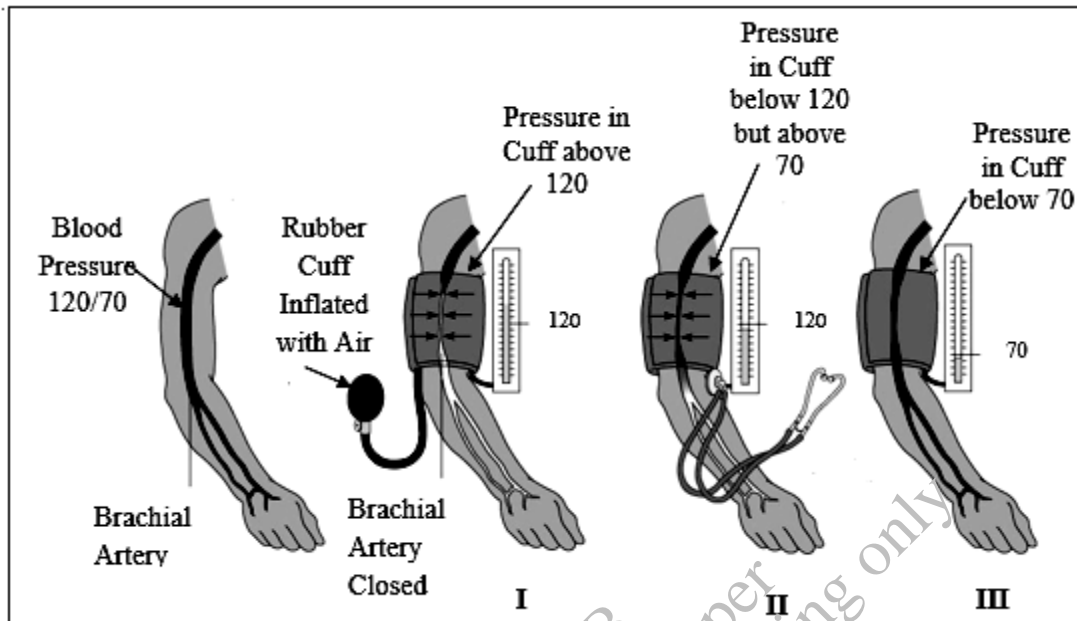
13. The given diagram shows the respiratory system of a mammal.



The structure where gases are exchanged is labelled as

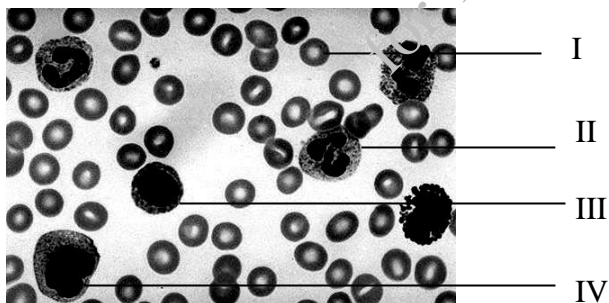
- A. I.
- B. II.
- C. III.
- D. IV.

14. The given diagram shows different stages (I, II and III) of measuring blood pressure by using a sphygmomanometer.



When using a stethoscope, sound will be audible in stage(s)

- A. I only.
  - B. II only.
  - C. I and III.
  - D. II and III.
15. The given diagram shows a microscopic view of a human blood sample.



The blood cell involved in antibody production is

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

END OF PAPER



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