

TEST - 03

ULTIMATE KCET CRASH COURSE 2026 ZOOLOGY

Q1 Which of the following is/are true for phylum ctenophora?

Statement A: Sexes are separate in ctenophora

Statement B: Fertilisation is external

Statement C: Development is indirect

- (A) All statements are correct
- (B) Only statement A is incorrect
- (C) Statement B and C are incorrect
- (D) Only statement B is correct

Q2 *Physalia* is a coelenterate which is also known as:

- (A) Sea-pen
- (B) Sea-fan
- (C) Portuguese man-of-war
- (D) Sea anemone

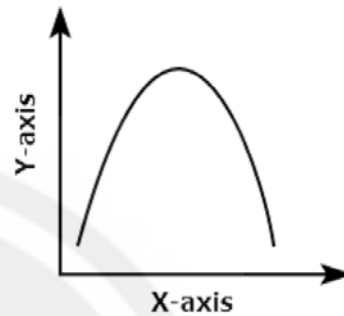
Q3 Which of the following structures protects the eyes of the frog in water?

- (A) Nictitating membrane
- (B) Tympanum
- (C) Bidder's canal
- (D) Sensory papillae

Q4 How many eggs are laid by a female frog at a time?

- (A) 100-200
- (B) 500-1000
- (C) 2500-3000
- (D) 5000-6000

Q5 The curve given below shows enzymatic activity with relation to three conditions (pH, temperature and substance concentration) what do the two axis (X and Y) represent?



	X-axis	Y-axis
(a)	Temperature	Enzyme activity
(b)	Substrate concentration	Temperature
(c)	Enzyme activity	Temperature
(d)	Enzyme activity	pH

- (A) (a)
- (B) (b)
- (C) (c)
- (D) (d)

Q6 Complex polysaccharides like chitin are mostly_____

- (A) Homopolymer
- (B) Heteropolymer
- (C) Homoheteropolymer
- (D) None of these

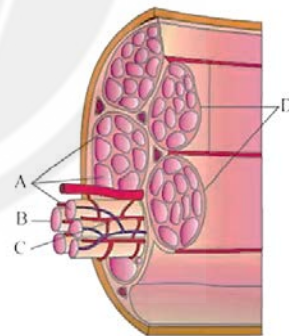
Q7 Decreased intrapulmonary pressure during inspiration is caused due to

- (A) increased pulmonary volume and thoracic volume
- (B) contraction of intercostal muscles
- (C) upliftment of ribs and sternum
- (D) All of the above



- Q8** What is true about RBCs in humans?
 (A) They transport about 80 per cent oxygen only and the rest 20 per cent of it is transported in dissolved state in blood plasma.
 (B) They transport 99.5 per cent of O₂
 (C) They carry about 20 to 25 per cent of CO₂.
 (D) They do not carry O₂ at all.
- Q9** What is the function of the semilunar valves?
 (A) To prevent blood flow from the atria to the ventricles
 (B) To prevent backward flow of blood from the ventricles into the atria
 (C) To prevent backward flow of blood from the pulmonary artery and aorta into the ventricles
 (D) To separate the left and right atria
- Q10** Arrange the following events in chronological order during the beginning of cardiac cycle
 I. SA node generates action potential
 II. Atrial systole
 III. Joint diastole
 IV. Ventricular diastole
 V. Ventricular systole
 VI. Atrial diastole Choose the correct option
 (A) III II I IV V VI
 (B) I III II IV V VI
 (C) III I II V VI IV
 (D) II IV I III V VI
- Q11** As compared to plasma, all are the constituents of dialysis fluid, **except**:
 (A) NaCl
 (B) Glucose
 (C) Amino acid
 (D) Urea

- Q12** Length, width and thickness of the adult human kidney are approximately:
 (A) 12-16 cm, 10-12 cm and 4-6 cm, respectively.
 (B) 10-12 cm, 5-7 cm and 2-3 cm, respectively.
 (C) 10-12 cm, 2-3 cm and 5-7 cm, respectively.
 (D) 12-16 cm, 5-7 cm and 2-3 cm, respectively
- Q13** The globular head of myosin contains ____.
 (A) Calcium ions in large quantities
 (B) Troponin
 (C) ATPase enzyme
 (D) ATP
- Q14** Which of the following statements about the scapula is **incorrect**?
 (A) It is a triangular flat bone located between the second and seventh ribs.
 (B) The acromion process is not a part of it.
 (C) The glenoid cavity of the scapula articulates with the humerus.
 (D) The scapula has an elevated ridge called the spine
- Q15** Fascicle in this diagram is represented by



- (A) A (B) B
 (C) C (D) D
- Q16** The system that transmits impulse from the CNS to the involuntary organs and smooth muscles of the body
 (A) Sympathetic neural system
 (B) Parasympathetic neural system
 (C) Somatic neural system
 (D) Autonomic neural system



- Q17** Identify the region of human brain which has pneumotaxic centre that alters respiratory rate by reducing the duration of inspiration
 (A) Cerebrum (B) Medulla
 (C) Pons (D) Thalamus
- Q18** Which of the following hormones inhibits gastric secretion and motility?
 (A) CCK (B) Secretin
 (C) Erythropoietin (D) GIP
- Q19** Which of the following is **not** a characteristic feature of Graves' disease?
 (A) Protrusion of the eye balls
 (B) Weight loss
 (C) Decreased basal metabolic rate
 (D) Enlargement of the thyroid gland

Q20 Match the **List-I** with **List-II**.

	List-I		List-II
(A)	Gametogenesis	(I)	Delivery of the baby.
(B)	Insemination	(II)	Release of secondary oocyte from ovary
(C)	Parturition	(III)	Formation of gametes.
(D)	Ovulation	(IV)	Transfer of sperms into female genital tract.

Choose the **correct** answer from the options given below:

- (A) A-III, B-IV, C-I, D-II
 (B) A-I, B-II, C-III, D-IV
 (C) A-I, B-III, C-II, D-IV
 (D) A-III, B-IV, C-II, D-I

- Q21** Assertion : The male sex accessory ducts include rete testis, vasa efferentia, epididymis and vas deferens
 Reason : The male accessory glands include paired seminal vesicles, a prostate and paired bulbourethral glands.
 (A) Assertion and reason both are true and the reason is correct explanation of assertion
 (B) Assertion and reason both are true but reason is not correct explanation of assertion
 (C) Assertion is true but reason is wrong
 (D) Assertion and reason both are wrong

- Q22** Lactational amenorrhea is effective for a maximum period of _____ after parturition.
 (A) one week only (B) one month only
 (C) 2 years (D) up to 6 months

- Q23** Use of spermicidal creams leads to
 (A) increase in contraceptive efficiency
 (B) prevention of ovulation
 (C) prevention of implantation
 (D) increase in sexual desire and drive

- Q24** How many of the following statements are **true** regarding Hardy Weinberg's principle?
 A. This principle says that allele frequencies in a population are stable and is constant from generation to generation.
 B. The gene pool (total genes and their alleles in a population) remains a constant.
 C. Sum total of all the allelic frequencies is 1.
 D. $p^2 + 2pq + q^2 = 1$
 (A) One (B) Two
 (C) Three (D) Four

- Q25** Darwin's finches are a good example of :
 (A) Industrial melanism
 (B) Connecting link
 (C) Adaptive radiation
 (D) Convergent evolution



- Q26** Cannabinoids are obtained from
 (A) inflorescence of the plant *Cannabis sativa*
 (B) fruits of the plant *Papaver somniferum*
 (C) latex of the plant *Cannabis sativa*
 (D) plant *Papaver somniferum* inflorescence

Q27 Match **List-I** with **List-II**.

List-I	List-II		
(A)	<i>Papaver somniferum</i>	(I)	Effects on cardiovascular system
(B)	<i>Atropa belladonna</i>	(II)	Depressant
(C)	Amphetamines	(III)	Hallucinogenic properties
(D)	<i>Cannabis sativa</i>	(IV)	Used as a medicine for insomnia

Choose the **correct** answer from the options given below:

- (A) A-I, B-II, C-III, D-IV
 (B) A-II, B-III, C-IV, D-I
 (C) A-IV, B-III, C-I, D-II
 (D) A-II, B-IV, C-I, D-III

- Q28** Which method is suitable for transferring an alien DNA into a plant cell?
 (A) CaCl_2
 (B) Biolistics or gene gun
 (C) Micro-infection
 (D) Heat shock

- Q29** Select the correct sequence for the steps involved in PCR
 (A) Denaturation Annealing Extension
 (B) Annealing Denaturation Extension
 (C) Denaturation Extension Annealing
 (D) Extension Annealing Denaturation

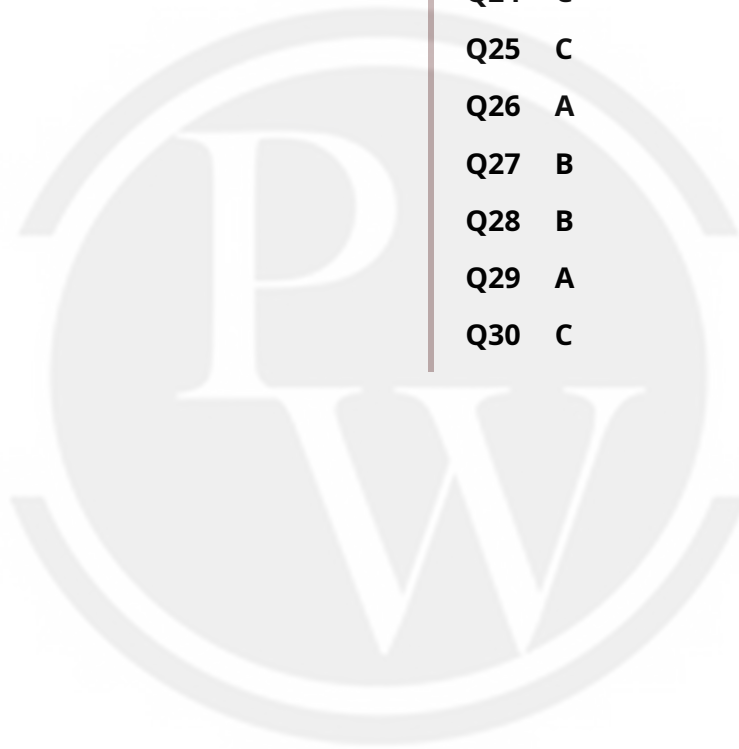
- Q30** Assertion(A):- Using *Agrobacterium* vectors, nematode-specific genes were introduced into the host plant.
 Reason (R):- The introduction of DNA was such that it produced both sense and anti-sense DNA in the host cells.
 (A) Both A and R are true and R is a correct explanation of A
 (B) Both A and R are true but R is not a correct explanation of A
 (C) A is true and R is false
 (D) A is false and R is true



Answer Key

Q1 B
Q2 C
Q3 A
Q4 C
Q5 A
Q6 A
Q7 D
Q8 C
Q9 C
Q10 C
Q11 D
Q12 B
Q13 C
Q14 B
Q15 D

Q16 D
Q17 C
Q18 D
Q19 C
Q20 A
Q21 B
Q22 D
Q23 A
Q24 C
Q25 C
Q26 A
Q27 B
Q28 B
Q29 A
Q30 C



Hints & Solutions

Note: scan the QR code to watch video solution

Q1 Text Solution:

- In phylum ctenophora, sexes are not separate.
- Reproduction takes place only by sexual means and fertilization is external with indirect development.

Video Solution:



Q2 Text Solution:

- Sea-pen - *Pennatula*
- Sea-fan - *Gorgonia*
- Portuguese man-of-war - *Physalia*
- Sea anemone - *Adamsia*

Video Solution:



Q3 Text Solution:

- The nictitating membrane protects the eyes of the frog in water.
- The tympanum is the ear of the frog.
- Bidder's canal is a part of the male reproductive system of frogs.
- In frogs, sensory papillae are the organs of touch.

Video Solution:



Q4 Text Solution:

2500-3000 ova.

Video Solution:



Q5 Text Solution:

X - axis : Temperature
Y - axis : Enzyme activity

Video Solution:



Q6 Text Solution:

Homopolymer

Video Solution:**Q7 Text Solution:**

Option (D) is correct and can be explained as Inspiration is initiated by the contraction of diaphragm. It is achieved by the contraction of the external intercostal muscles which up lift the ribs and the sternum. The overall increase in the thoracic volume causes a similar increase in the pulmonary volume. This decreases the intrapulmonary pressure forcing the air from outside to move into the lungs (i.e. inspiration).

Video Solution:**Q8 Text Solution:**

They carry about 20 to 25 per cent of CO_2 .

Video Solution:**Q9 Text Solution:**

The openings of the right and the left ventricles into the pulmonary artery and the aorta respectively are provided with the semilunar valves.

Video Solution:**Q10 Text Solution:**

The events of cardiac cycle are as follows
(III) Joint diastole (I) SA node generates action potential (II) Artrial Systole (V) Ventricular systole (VI) Atrial diastole (IV) Ventricular diastole.

Video Solution:**Q11 Text Solution:**

Urea is absent in the dialysing fluid because urea needs to be excreted out of the blood while other constituents are present in the dialysing fluid viz the solutes and electrolytes.

Video Solution:

Q12 Text Solution:

The dimensions of an adult human kidney are approximately:

- Length: 10-12 cm
- Width: 5-7 cm
- Thickness: 2-3 cm
- Additionally, the weight of each kidney is about 120-170 g.

These measurements correspond to the typical size of healthy human kidneys.

Video Solution:



Q13 Text Solution:

Globular head of myosin contains an ATPase enzyme that along with CO_2^+ and mg^{2+} ions catalyses the breakdown of ATP during muscle contraction.

Video Solution:



Q14 Text Solution:

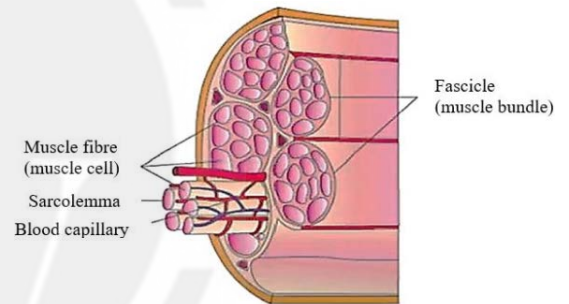
Scapula is a large triangular flat bone situated in the dorsal part of the thorax between the second and the seventh ribs. The dorsal, flat, triangular body of the scapula has a slightly elevated ridge called spine which projects as a flat, expanded process called the acromion. The clavicle articulates with this.

The acromion process is not part of the clavicle; it is an extension of the scapula.

Video Solution:



Q15 Text Solution:



Video Solution:



Q16 Text Solution:

The autonomic neural system transmits impulses from the CNS to the involuntary organs and smooth muscles of the body. The autonomic neural system is further classified into sympathetic neural system and parasympathetic neural system.

Video Solution:



Q17 Text Solution:

The pneumotaxic centre, located in the pons, regulates the pattern of breathing by reducing the duration of inspiration, thus altering the respiratory rate.

Video Solution:



Q18 Text Solution:

Gastric inhibitory peptide (GIP) inhibits gastric secretion and motility.

Video Solution:



Q19 Text Solution:

Graves' disease is characterised by increased basal metabolic rate.

Video Solution:



Q20 Text Solution:

Gametogenesis	Formation of gametes.
Insemination	Transfer of sperms into female genital tract.
Parturition	Delivery of the baby.
Ovulation	Release of secondary oocyte from ovary.

Video Solution:



Q21 Text Solution:

Assertion and reason both are true but reason is not correct explanation of assertion

Video Solution:



Q22 Text Solution:

Lactational amenorrhea (absence of menstruation) method is based on the fact that ovulation and therefore the cycle do not occur during the period of intense lactation following parturition. Therefore, as long as the mother breast-feeds the child fully, chances of conception are almost nil. However, this method has been reported to be effective only upto a maximum period of six months following parturition.

Video Solution:**Q23 Text Solution:**

The use of spermicidal creams, jellies and foams along with diaphragms, cervical caps and vaults leads to increase in contraceptive efficiency

Video Solution:**Q24 Text Solution:**

According to Hardy Weinberg's principle .
 $p^2 + 2pq + q^2 = 1$

Video Solution:**Q25 Text Solution:**

Darwin finches a good example of adaptive radiation. Adaptive radiation is a process of evolution of different species in a given geographical area starting from a point and radiating to other areas of geography.

Video Solution:**Q26 Text Solution:**

A class of molecules known as cannabinoids interact with cannabinoid receptors, which are mostly found in the brain. They can result in hallucinations, and an overdose can result in serious health issues. The *Cannabis sativa* plant's inflorescences are where the natural cannabinoids are found. Hence the correct option is A.

Video Solution:

Q27 Text Solution:**(B)**

<i>Papaver somniferum</i>	Depressant
<i>Atropa belladonna</i>	Hallucinogenic properties
Amphetamines	Used as a medicine for insomnia
<i>Cannabis sativa</i>	Effects on cardiovascular system

Video Solution:**Q28 Text Solution:**

Biolistics or gene gun method, suitable for plants, cells are bombarded with high velocity micro-particles of gold or tungsten coated with DNA.

Video Solution:**Q29 Text Solution:**

Denaturation Annealing Extension

Video Solution:**Q30 Text Solution:**

Using *Agrobacterium* vectors, nematode-specific genes were introduced into the host plant. The introduction of DNA was such that it produced both sense and anti-sense RNA in the host cells.

Video Solution:
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