

TEST - 01

ULTIMATE KCET CRASH COURSE 2026

ZOOLOGY

- Q1** Changes in GnRH pulse frequency in females is controlled by circulating levels of
(A) progesterone only
(B) progesterone and inhibin
(C) estrogen and progesterone
(D) estrogen and inhibin
- Q2** Which of the following structures provides nourishment to the developing embryo?
(A) Cervix (B) Placenta
(C) Uterus (D) Fallopian tube
- Q3** If for some reason, the vasa efferentia in the human reproductive system get blocked, the gametes will not be transported from:
(A) Rete testis to epididymis
(B) Epididymis to vas deferens
(C) Ovary to uterus
(D) Vagina to uterus
- Q4** Which of the following statements regarding mammary gland is incorrect :
(A) They are paired glandular structure that lies over the pectoralis major muscles.
(B) Each gland has 100–500 lobulated milk glands each having a number of lobules containing number of alveoli.
(C) The cell of alveoli secrete milk which is stored in the cavity of the alveoli.
(D) Each milk gland or lobules has lactiferous ducts that drain into opening in the nipple.
- Q5** Assertion (A): The male sex accessory glands include paired seminal vesicles, paired prostate glands and paired bulbourethral glands.
Reason (R): Secretions of these glands constitute the seminal plasma which is rich in fructose, calcium and certain enzymes.
(A) Both Assertion (A) and Reason (R) are true, and Reason (R) is correct explanation of Assertion (A).
(B) Both Assertion (A) and Reason (R) are true but Reason (R) is not correct explanation of Assertion (A).
(C) Assertion(A) is true and Reason (R) is false.
(D) Assertion (A) is false and Reason (R) is true.
- Q6** Which of the following statements accurately describes the purpose of Assisted Reproductive Technologies (ART) in the context of infertility treatment?
(A) ART includes only surgical procedures to enhance fertility.
(B) ART encompasses a variety of techniques, such as in vitro fertilization (IVF), to help couples conceive.
(C) ART is primarily focused on hormonal treatments without any technological intervention.
(D) ART is exclusively for women over the age of 40 seeking pregnancy



Q7 Identify the **correct** purpose of artificial insemination in infertility cases?

- (A) To increase the number of eggs produced
- (B) To artificially introduce semen into the female reproductive tract.
- (C) To reduce sperm motility
- (D) To promote natural conception

Q8 Correct statement with reference to a test tube baby is :

- (A) the fertilized egg is placed in the womb of the mother where the gastrula period is completed.
- (B) unfertilized egg is placed in the womb and allowed to grow parthenogenetically.
- (C) a prematurely born baby is reared in an incubator.
- (D) fertilized egg is taken out and grown in a large test-tube.

Q9 Consider the statements given below regarding contraception and answer as directed thereafter.

- (1) Medical termination of pregnancy (MTP) during first trimester is generally safe.
- (2) Generally chances of conception are nil until mother breast-feeds the infant upto two years.
- (3) Intrauterine devices like copper-T are effective contraceptives.
- (4) Contraception pills may be taken upto one week after coitus to prevent conception.

Which two of the above statements are correct?

- (A) 1, 3
- (B) 1, 2
- (C) 2, 3
- (D) 3, 4

Q10 Assertion : Diaphragms and cervical caps are barriers made of rubber.

Reason : They block the entry of sperms through the cervix.

- (A) Assertion and reason both are correct statements and reason is correct explanation for assertion.
- (B) Assertion and reason both are correct statements but reason is not correct explanation for assertion.
- (C) Assertion is correct statement but reason is wrong statement.
- (D) Assertion is wrong statement but reason is correct statement.

Q11 Neanderthal man

- (A) resembled modern man
- (B) often had a somewhat larger brain than modern man
- (C) was culturally more advanced than modern man
- (D) had a much smaller brain than that of modern man

Q12 In a population of bears, which would be considered the fittest?

- (A) The biggest bear
- (B) The bear having the largest number of mutations
- (C) The bear that blends in with its environment the best
- (D) The bear that leaves the most descendants

Q13 Mark the incorrect statement

- (A) The fitness of the individuals, according to Charles Darwin, means reproductive fitness
- (B) Homology in vertebrates' brain indicates their common ancestry
- (C) The idea of survival of fittest of Alfred R Wallace was based on his studies on Galapagos islands
- (D) All of these



Q14 Given below are two statements:

Statement I: *Tyrannosaurus rex* was about 5 feet in height.

Statement II: *Tyrannosaurus rex* had huge fearsome dagger-like teeth.

In the light of the above statements, choose the most appropriate answer from the options given below:

- (A) Statement I and Statement II both are correct.
- (B) Statement I and Statement II both are incorrect.
- (C) Statement I is correct, but Statement II is incorrect.
- (D) Statement I is incorrect, but Statement II is correct.

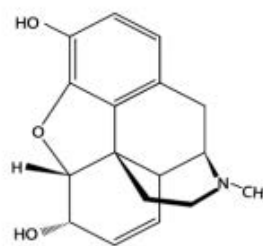
Q15 At a particular locus, frequency of A allele is 0.6 and that of a is 0.4. What would be the frequency of heterozygotes in a random mating population at equilibrium?

- (A) 0.36
- (B) 0.16
- (C) 0.24
- (D) 0.48

Q16 Following are some statements regarding the primary and secondary antibody response in humans. All the statements are correct except

- (A) lag period (time between the introduction of antigen and appearance of antibodies in blood) in primary response is longer than that in secondary response
- (B) predominant isotype produced in primary response is IgM while that in secondary response is IgG
- (C) primary antibodies have a higher affinity for antigen as compared to secondary antibodies
- (D) primary immune response is more quicker and intense than secondary immune response

Q17 What is shown in the figure?



- (A) Cannabinoid molecule
- (B) Morphine
- (C) Nicotine
- (D) Lobelia

Q18 Few symptoms are given below. Choose the correct option of disease which is related with the mentioned symptoms.

- A. Internal bleeding
 - B. Muscular pain
 - C. Fever
 - D. Anemia
 - E. Blockage of intestinal passage
- (A) Typhoid
 - (B) Ascariasis
 - (C) Malaria
 - (D) Pneumonia

Q19 Which one of the following options gives the correct matching of a disease with its causative organism and mode of infection?

- (A) Disease Causative organism Mode of Infection
Elephantiasis *Wuchereria bancrofti* with contaminated water and food
- (B) Malaria *Plasmodium vivax* Bite of Male *Anopheles* mosquito
- (C) Typhoid *Salmonella typhi* with inspired air
- (D) Pneumonia *Streptococcus pneumoniae* Droplet infection



Q20 Which of the following statements are **correct** about cancer?

I. The chemical carcinogen present in tobacco smoke is identified as a major cause of lung cancer.

II. Cellular oncogenes have been identified in normal cells and activated under certain conditions, which could lead to oncogenic transformation of the cell.

III. CT scans and MRI are beneficial in detecting cancer of the internal organs.

IV. Antibodies against cancer-specific antigens are also used for the detection of certain cancers.

(A) I and II only

(B) I and III only

(C) I, II and III only

(D) I, II, III and IV

Q21 Which of the following are required to facilitate cloning into a vector?

(A) Origin of replication

(B) Selectable marker

(C) Cloning sites

(D) All of these

Q22 If we ligate foreign DNA at Bam HI site of pBR322, then the resultant recombinants will show

(1) Resistance to ampicillin

(2) Sensitivity to tetracycline

(3) Resistance to tetracycline

(4) Sensitivity to ampicillin

(A) 1 and 2

(B) 1 and 3

(C) 2 and 4

(D) 3 and 4

Q23 Given below are two statements:

Statement I: In a method known as micro-injection, recombinant DNA is directly injected into the nucleus of an animal cell.

Statement II: Restriction enzymes belong to a larger class of enzymes called nucleases.

In the light of the above statements, choose the most appropriate answer from the options given below:

(A) Statement I is correct but Statement II is incorrect.

(B) Statement I is incorrect but Statement II is correct.

(C) Both Statement I and Statement II are correct.

(D) Both Statement I and Statement II are incorrect.

Q24 Which of the following statements does not hold true for restriction enzyme?

(A) It recognizes a palindromic nucleotide sequence

(B) It is an endonuclease

(C) It is isolated from viruses

(D) It produces the same kind of sticky ends in different DNA molecules

Q25 Biolistics (genegun) is suitable for

(A) disarming pathogen vectors

(B) transformation of plant cells

(C) constructing recombinant DNA by joining with vectors

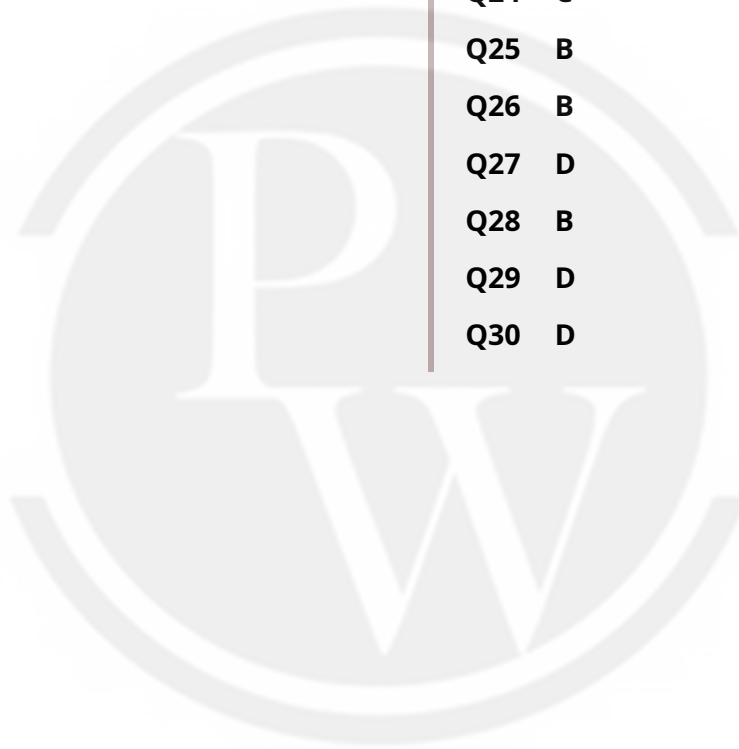
(D) DNA fingerprinting



Answer Key

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

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



Hints & Solutions

Note: scan the QR code to watch video solution

Q1 Text Solution:

GnRH is secreted by the hypothalamus which stimulates the anterior lobe of pituitary gland to secrete luteinising hormone (LH) and FSH. FSH stimulates the growth of the ovarian follicles and stimulates the formation of estrogens. LH stimulates the corpus luteum to secrete progesterone. Rising levels of progesterone and estrogen inhibits the release of GnRH, which in turn, inhibits the production of FSH and LH.

Video Solution:



Q2 Text Solution:

Placenta

Video Solution:



Q3 Text Solution:

Rete testis to epididymis

Video Solution:



Q4 Text Solution:

Each mammary gland has 15-20 lobulated milk glands each having a number of lobules containing number of alveoli.

Video Solution:



Q5 Text Solution:

The male accessory glands include paired seminal vesicles, a prostate and paired bulbourethral glands.

Video Solution:



Q6 Text Solution:

Assisted Reproductive Technologies (ART) refer to a broad range of medical procedures used to address infertility issues. The most commonly recognized technique within ART is *in vitro* fertilization (IVF), where eggs are retrieved from a woman's ovaries and fertilized by sperm in a laboratory setting. The resulting embryos can then be implanted back into the woman's uterus.

Video Solution:



Q7 Text Solution:

Artificial insemination means artificial introduction of semen of a healthy donor or husband into the vagina of the female.

Video Solution:**Q8 Text Solution:**

For test-tube babies, fertilization of egg is done *in vitro* and the zygote at gastrula stage is implanted in the womb of the mother.

Video Solution:**Q9 Text Solution:**

Intrauterine devices like copper-T are effective contraceptives for birth control. It suppresses sperm motility and the fertilising capacity of the sperms.

Medical termination of pregnancy or induced abortion is voluntary or intentional termination of pregnancy before full term of fetus. It is comparatively safe upto 12 weeks (the first trimester) of pregnancy.

Video Solution:**Q10 Text Solution:**

Diaphragms and cervical caps are barriers made of rubber. They are placed under barrier method as they block the entry of sperms through the cervix.

Video Solution:**Q11 Text Solution:**

often had a somewhat larger brain than modern man

Video Solution:**Q12 Text Solution:**

Fitness is a measure of an organism's genetic contribution to the next generation.

Video Solution:

Q13 Text Solution:

The idea of survival of fittest of Alfred R Wallace was based on his studies on Galapagos islands

Video Solution:**Q14 Text Solution:**

Tyrannosaurus rex was about 20 feet in height. *Tyrannosaurus rex* had huge fearsome dagger-like teeth.

Video Solution:**Q15 Text Solution:**

0.48 (Refer video solution)

Video Solution:**Q16 Text Solution:**

primary immune response is more quicker and intense than secondary immune response

Video Solution:**Q17 Text Solution:**

The given figure is of morphine.

Video Solution:**Q18 Text Solution:**

Symptoms of ascariasis include internal bleeding, muscular pain, fever, anemia and blockage of the intestinal passage.

Video Solution:**Q19 Text Solution:**

Right match is pneumonia which is caused by streptococcus pneumoniae, haemophilus influenzae. This disease is spread by droplets (air borne diseases).

Video Solution:

Q20 Text Solution:

- The chemical carcinogen present in tobacco smoke is identified as a major cause of lung cancer.
- Cellular oncogenes have been identified in normal cells and activated under certain conditions, which could lead to oncogenic transformation of the cell.
- Techniques like CT scans and MRI are beneficial in detecting cancer of the internal organs.
- Antibodies against cancer-specific antigens are also used for the detection of certain cancers.

Video Solution:**Q21 Text Solution:**

All of these

Video Solution:**Q22 Text Solution:**

If gene of interest is cloned at BamHI site in pBR322, the recombinant loses its resistance to tetracycline by insertional inactivation. Hence, the recombinant bacteria now would conclusively exhibit resistance to ampicillin.

Video Solution:**Q23 Text Solution:**

- In a method known as micro-injection, recombinant DNA is directly injected into the nucleus of an animal cell.
- Restriction enzymes belong to a larger class of enzymes called nucleases.

Video Solution:**Q24 Text Solution:**

It is isolated from viruses

Video Solution:

Q25 Text Solution:

Biolistics is a technique for introducing genetic material into living cells, especially plant cells, in which DNA-coated microscopic particles (tungsten or gold particles) are bombarded with a very high velocity into the target cell using a special gun. The microprojectiles, typically 1mm in diameter, are accelerated to high velocity by a specially modified small calibre gun and penetrate the cell walls and plasma membrane with minimal damage. Hence, the novel DNA can be inserted into intact plant cells ultimately transforming it without using a vector.

Video Solution:**Q26 Text Solution:**

The correct option for the given interpretative MCQ is B. To increase the efficiency of the cells in taking up the recombinant DNA.

During the process of recombinant DNA technology, the cells (typically bacteria) are incubated with the recombinant DNA on ice. This step helps to slow down the metabolic activities of the cells and reduces the chances of degradation of the DNA.

After the incubation on ice, the cells are briefly placed at 42°C (heat shock). This sudden change in temperature makes the cell membranes more permeable, allowing the recombinant DNA to enter the cells efficiently. It increases the chances of successful uptake of the recombinant DNA by the bacteria.

Finally, the cells are put back on ice to cool down and stabilize. This step allows the cells to recover from the heat shock and resume their normal growth.

Therefore, the purpose of incubating the cells with recombinant DNA on ice and then briefly placing them at 42°C (heat shock) before putting them back on ice is to increase the efficiency of the cells in taking up the recombinant DNA.

Video Solution:

Q27 Text Solution:

The first restriction endonuclease-Hind II, whose functioning depended on a specific DNA nucleotide sequence was isolated and characterised five years later.

Today we know more than 900 restriction enzymes that have been isolated from over 230 strains of bacteria.

Video Solution:**Q28 Text Solution:**

Only a

Video Solution:**Q29 Text Solution:**

Only A-peptide and B-peptide are present in insulin produced by rDNA technology. They are interlinked by disulphide bridges.

C-peptide is not present in mature insulin.

Video Solution:**Q30 Text Solution:**

The inactive protoxin gets converted into active form in the insect gut in the presence of alkaline pH.

Video Solution:[Android App](#)[iOS App](#)[PW Website](#)