



BIOLOGY

BOOKS - TRUEMAN BIOLOGY

NEET (UG) -2019 (Conducted by CBSE on 05-05-2019)



1. Which of the following statements is incorrect?

A. Viroids lack a protein coat

B. Viruses are obligate parasites

C. Infective constituent in viruses is the

protein coat

D. Prions consist of abnormally folded proteins

Answer: C

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2. Purines found both in DNA and RNA are

A. Adenine and thymine

- B. Adenine and guanine
- C. Guanine and cytosine
- D. Cytosine and thymine

Answer:

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3. Which of the following glucose transporters insulin-dependent?

A. GLUT-I

B. GLUT II

C. GLUT III

D. GLUT IV

Answer: GLUT IV



4. Identify the cells whose secretion protects the lining of gastro-intestinal tract from various enzymes

A. Chief Cells

B. Goblet Cells

C. Oxyntic Cells

D. Duodenal Cells

Answer:



5. Which one of the following equipments is essentially required for growing microbes on a large scale, for industrial production of enzymes?

A. BOD incubator

B. Sludge digester

C. Industrial oven

D. Bioreactor

Answer:



6. Which of the 'following is true for Golden rice' ?

A. It is Vitamin A enriched, with a gene from

daffodil

B. It is pest resistant, with a gene from Bacillus

thuringiensis

C. It is drought tolerant, developed using

Agrobacterium vector

D. It has yellow grains, because of a gene

introduced from a primitive variety of rice



7. Which one of the following is not a method of

in situ conservation of biodiversity?

A. Biosphere Reserve

B. Wildlife Sanctuary

C. Botanical Garden

D. Sacred Grove



8. Under which of the following conditions there will be no change in the reading frame of following mRNA?

A. Insertion of G at 5^{th} position

B. Deletion of G from 5^{th} position

C. Insertion of A at G at 4^{th} and 5^{th} positions

respectively

D. Deletion of GGU from 7^{th} , 8^{th} and 9^{th} positions



9. Which of these following methods is the suitable for disposal of nuclear waste?

A. Shoot the waste into space

B. Bury the waste under Antarctic ice-cover

C. Dump the waste within rocks under deep

ocean

D. Burry the wnste within rocks deep below

the earth's surface

Answer:



10. Match the following organisms with the

products they produce

- (a) Lactobacillus
- (i) Cheese (ii) Curd
- (b) Saccharomyces cerevisiae
- (iii) Citric Acid
- (c) Aspergillus niger(d) Acetobacter aceti
- (iv) Bread
 - (v) Acetic Acid

A.
$$\begin{pmatrix} a \\ ii \end{pmatrix} \begin{pmatrix} b \\ iv \end{pmatrix} \begin{pmatrix} c \\ v \end{pmatrix} \begin{pmatrix} d \\ iii \end{pmatrix}$$

$$B. \frac{(a)}{ii} \quad (b) \quad (c) \quad (d) \\ ii \quad iv \quad iii \quad v \\ C. \frac{(a)}{iii} \quad (b) \quad (c) \quad (d) \\ iii \quad iv \quad v \quad i \\ D. \frac{(a)}{ii} \quad (b) \quad (c) \quad (d) \\ ii \quad i \quad iii \quad v \\ \end{array}$$

Answer:

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11. What map unit (Centimorgan) is adopted in

the construction of genetic maps?

A. A unit of distance between two expressed

genes, representing 10%-cross over

B. A unit of distance between two expressed

genes, representing 100% cross over

C.A unit of distance between genes on

chromosomes, representing 1% cross over

D. A unit of distance between genes on chro-

mosomes, representing 50% cross over



12. Select the hormone-releasing Intra-Uterine Devices.

A. Vaults, LNG-20

B. `Multiload 375, Progestasert

C. Progestasert, LNG-20

D. Lippes Loop, Multiload 375



13. Which of the following can be used as a bio control agent in the treatment of plant disease?

A. Trichoderma

B. Chlorella

C. Anabaena

D. Lactobacillus

Answer:

14. Expressed Sequence Tags (ESfs) refers to :

A. Genes expressed as RN A

B. Polypeptide expression

C. DNA polymorphism

D. Novel DNA sequences



15. Colostrum, the yellowish fluid, secreted by mother during the initial days of lactation is very essential to impart immunity to the new born infants because it contains:

A. Natural killer cells

B. Monocytes

C. Macrophages

D. Immunoglobulin A



16. Select the incorrect statement

A. Inbreeding increases homozygosity

B. Inbreeding is essential to evolve purelines

in any animal

C. Inbreeding selects harmful recessive genes

that reduce fertility and productivity

D. Inbreeding helps in accumulation of

superior genes elimination of undesirable

genes





17. Select the correct sequence for transport of sperm cells in male reproductive system.

A. Testis \rightarrow Epididymis \rightarrow Vasa efferentia

ightarrow Rete testis ightarrow Inguinal canal ightarrow

Urethra

B. Seminiferous tubules \rightarrow Rete testis \rightarrow

Vasa efferentia ightarrow Epidid ymis ightarrow Vas

deferens \rightarrow Ejaculatory duct \rightarrow Urethra \rightarrow Urethral meatus C. Seminiferous tubules \rightarrow Vasa efferentia ightarrow Epididymis ightarrow Inguinal canal ightarrowUrethra D. Testis \rightarrow Epididymis \rightarrow Vasa efferentia ightarrow Vas deferens ightarrow Ejaculatory duct ightarrowInguinal canal \rightarrow Urethra \rightarrow Urethral meatus

18. A gene locus has two alleles A, a. If the frequency of dominant allele A is 0.4, then what will be the frequency of homozygous dominant, heterozygous and homozygous recessive individuals in the population

A. 0.36 (AA), 0.48(Aa), 0.16 (aa)

B. o.6 (AA), 0.24 (Aa), 0.36 (aa)

C. 0.16 (AA), 0.48 (Aa), 0.36 (aa)

D. 0.16 (AA), 0.36 (Aa), 0.48 (aa)

Answer:



19. Match the following organisms with their respective characteristics

- (a) Pila
- (b) Bombyx
- (c) Pleurobrachia
- (d) Tacnia

- (i) Flame cells
- (ii) Comb plates
- (iii) Radula
- (iv) Malpighian tubules

D.
$$(a)$$
 (b) (c) (d)
(iii) (ii) (iv) (i)

Answer:

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20. The shorter and longer arms of a submetacentric chromosome are referred to as :

A. s-arm and I-arm respectively

B. p-arm and q-arm respectively

C. q-arm and p-arm respectively

D. m-arm and n-arm respectively





21. What is the site of perception of photoperiod necessary for induction of flowering in plants? Leaves

- A. Lateral buds
- **B.** Pulvinus
- C. Shoot apex
- D. Leaves



22. Which part of the brain is responsible for thermoregulation?

A. Cerebrum

B. Hypothalamus

C. Corpus callosum

D. Medulla oblongata



23. Which of the following pair of oragnelles does not contain DNA?

A. Mitochondria and Lysosomes

B. Chloroplast and Vacuoles

C. Lysosomes and Vacuoles

D. Nuclear envelope and Mitochondria



24. What is the genetic disorder in which an individual has an overall masculine development, gynaecomastia, and is sterile?

A. Turner's syndrome

B. Klinefelter's syndrome

C. Edward syndrome

D. Down's syndrome



25. Xylem translocates :

A. Water only

B. Water and mineral salts only

C. Water, mineral salts and some organic

nitrogen only

D. Water, mineral salts, some organic nitrogen

and hormones

Answer:

26. Which of the following pairs of gases is mainly

responsible for green house effect?

A. Ozone and Ammonia

B. Oxygen and Nitrogen

C. Nitrogen and Sulphur dioxide

D. Carbon dioxide and Methane

Answer:

27. Which of the following protocols did aim reducing emission of chlorofluorocarbons into atmosphere?

A. Montreal protocol

B. Kyoto protocol

C. Gothenburg Protocol

D. Geneva Protocol

Answer:

28. In some plants, the female gamete develops into embryo without fertilization. This pheno menon is known as:

A. Autogamy

B. Parthenocarpy

C. Syngamy

D. Parthenogenesis



29. Which of the following sexually transmitted

diseases is not completely curable?

A. Gonorrhoea

B. Genital warts

C. Genital herpes

D. Chlamydiasis



30. Which of the following immune responsible

for rejection of kidney graft?

A. Auto-immune respones

B. Humoral immune response

C. Inflammatory immune response

D. cell-mediated immune response

Answer:

31. Which of the following factors is responsible the formation of concentrated urine?

A. Low levels of antidiuretic hormone

B. Maintaining hyperosmolarity towards inner

medullary interstitium in the kidneys.

C. Secretion of erythropoietin by juxtaglom-

erular complex

D. Hydrostatic pressure during glomerular filtration



32. Which of the following features of genetic code does allow bacteria to produce human insulin by recombinant DNA technology ?

A. Genetic code is not ambiguous

B. Genetic code is redundant

C. Genetic code is nearly universal

D. Genetic code is specific





33. Which of the following statements is not correct

A. Lysosomes have numerous hydrolytic

enzymes

B. The hydrolytic enzymes of lysosomes are active under acidic pH.

C. Lysosomes are membrane bound structures

D. Lysosomes are formed by the process of

packaging in the endoplasmic retintlum.



34. The concept of "Omnis cellula-e cellula"regard cell division was first proposed by :

A. Rudolf Virchow

B. Theodore Schwann

C. Schleiden

D. Aristotle



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35. Use of an artificial kidney during hemodialysis may result in :

Nitrogenous waste build-up in the body

Non-elimination of excess potassium ions

Reduced 'absorption of calcium ions from gastro-

intestinal tract

Reduced RBC production

Which of the following options is the most appropriate?

A. (a) and (b) are correct

B. (b) and (c) are correct

C. (c) and (d) are correct

D. (a) and (d) are correct

Answer:

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36. What is the direction of movement of sugars in phloem?

A. Non-multidirectional

B. Upward

C. Downward

D. Bi-directional

Answer:



37. Which of the following muscular disorders is inherited?

A. Tetany

B. Muscular dystrophy

C. Myasthenia gravis

D. Botulism

Answer:

- **38.** Consider following features:
- (a) Organ system level of organisation
- (b) Bilateral symmetry
- (c) True coelomates with segmentabon of body
- Select the correct option of animal groups which
- possess all the above characteristics.

A. Annelida, Arthropoda and Chord a ta

B. Annelida, Arthropoda and Mollusca

C. Arthropoda, Mollusca and Chordata

D. Annelida, Mollusca and Chordata

Answer:



39. The frequency of recombination between gene present on the same chromosome as a measure of the distance between genes was explained by:

A. T.H. Morgan

B. Gregor J. Mendel

C. Alfred Sturtevant

D. Sutton Boveri

Answer:

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40. Following statements describe the characteristics of the enzyme Restriction Endonuclease. Identify the incorrect statement.

A. The enzyme cuts DNA molecule at identified position within the DNA B. The enzyme binds DNA at specific sites and cuts only one of the two strands C. The enzyme cuts the sugar-phosphate backbone at specific sites on each strand D. The enzyme recognizes a specific palindromic nucleotide sequence in the DNA

Answer:

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41. Which of the following statements is incorrect

A. Morels and truffles are edible delicacies.

B. Claviceps is a source of many alkaloids and LSD.

C. Conidia are produced exogenously and ascospores endogenously.

D. Yeasts have filamentous bodies with long

thread-like hyphae



42. Placentntion, in which ovules develop on the inner wall of the ovary or in peripheral part, is:

A. Basal

B. Axile

C. Parietal

D. Free central



43. Which of the following is the most impor-tant cause of animals and plants being driven to extinction

A. Habitat loss and fragmentation

B. Drought and floods

C. Economic exploitation

D. Alien species invasion





44. Variations caused by mutation, as proposed by Hugo de Vries, are:

A. random and directional

B. random and directionless

C. small and directional

D. small and directionless



45. Respiratory Quotient (RQ) value of tripalmitin

is :

A. 0.9

B. 0.7

C. 0.07

D. 0.09



46. In Antirrhinum (Snapdragon), a red flower was crossed with a-white flower and in F_1 generation pink flowers were obtained. When pink flower were selfed, the F_2 generation showed white, red and pink flowers. Choose the incorrect statemes from the following :

A. This experiment does not follow the Principle of Dominance B. Pink colour in F_1 is due to incomplete dominance C. Ratio

$$F_2 \hspace{0.1 in} ext{is} \hspace{0.1 in} rac{1}{4} \hspace{0.1 in} (ext{Red}) \hspace{0.1 in} ext{:} \hspace{0.1 in} rac{2}{4} \hspace{0.1 in} (ext{pink}) \hspace{0.1 in} ext{:} \hspace{0.1 in} rac{1}{4} \hspace{0.1 in} (ext{white})$$

D. Law of Segregation does not apply in this

experiment

Answer:



47. Select the incorrect statement

A. Male fruit fly is heterogametic.

B. In male grasshoppers, 50% of sperms have

no sex-chromosome.

C. In domesticated fowls sex of progeny

depends on the type of sperm rather than

egg

D. Human males have one of their sex-

chromosome much shorter than the other

Answer:

48. The correct sequence of phases of cell cycle is

A.
$$M o G_1 o G_2 o S$$

- $\mathsf{B}.\,G_1 \to G_2 \to_S \ \to M$
- $\mathsf{C}.\,S \to G_1 \to G_2 \to M$
- D. $G_1 o S o G_2 o M$

Answer:

:

49. Thiobacillus is group of bacteria helpful in carrying out:

A. Nitrogen fixation

B. Chemoautotrophic fixation

C. Nitrification

D. Denitrification

Answer:

50. Polyblend, a fine powder of recycled modified plastic, has proved to be a good material for:

A. making plastic sacks

B. use as a fertilizer

C. construction of roads

D. making tubes and pipes

Answer:

51. From evolutionary point of view, retention of the female gametophyte with developing young embryo on the parent sporophyte for some time, is first observed in :

A. Liverworts

B. Mosses

C. Pteridophytes

D. Gymnosperms



52. Select the correct option

A. 8^{th} , 9^{th} and 10^{th} pairs of ribs articulate

directly with the sternum.

B. 11^{th} and 12^{th} pairs of ribs are connected to the sternum with the help of hyaline

cartilage.

C. Each rib is a flat thin bone and all the ribs are connected dorsally to the thoracic vertebrae and ventrally to the sternum. D. There are seven pairs of vertebrosternal,

three pairs of vertebrochondral and two

pairs of vertebral ribs.

Answer:

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53. Concanavalin A is :

A. an alkaloid

B. an essential oil

C. a lectin

D. a pigment

Answer:



54. Pinus seed cannot germinate and establish without fungal association. This is because

A. its embryo is immature

B. it has obligate association with mycor-

rhizae

C. it has very hard seed coat.

D. its seeds contain inhibitors that prevent

ger-mination

Answer:

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55. The Earth Summit held in Rio de Janeiro in 1992 was called :

A. to reduce CO_2 emissirns and global

warming

sustainable utilization of its benefits.

C. to assess threat posed to native species by

invasive weed species

D. .for immediate steps to discontinue use of

CFCs that were damaging the ozone layer.



56. DNA precipitation out of a mixture of biomolecules can be achieved by treatment with:

A. Isopropanol

B. Chilled ethanol

C. Methanol at room temperature

D. Chilled chloroform

Answer:

57. Grass leaves curl inwards during very dry weather. Select the most appropriate reason from the following:

A. Closure of stomata

B. Flaccidity of bulliform cells

C. Shrinkage of air spaces in spongy meso-

phyll

D. Tyloses in vessels



58. Match the following structures with the their

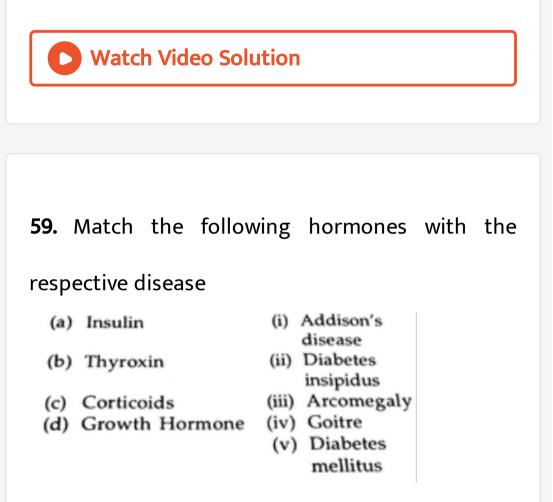
respective location in organs:

- (a) Crypts of Lieberkuhn
- (b) Glisson's Capsule
- (c) Islets of Langerhans
- (d) Brunner's Glands

(i) Pancreas

- (ii) Duodenum
- (iii) Small intestine
- (iv) Liver

Select the correct option from the following



$$\begin{array}{ccccc} (a) & (b) & (c) & (d) \\ (v) & (iv) & (i) & (iii) \\ \\ D. & (a) & (b) & (c) & (d) \\ (ii) & (iv) & (i) & (iii) \end{array}$$

Answer:



60. Which of the following contraceptive methods

Involve a role of horrnone ?

A. Lactational amenorrhea, Pills, Emergency

contraceptives

B. Barrier method, Lactational amenorrhea,

Pills

C. CuT, Pills, Emergency contraceptives

D. Pills, Emergency contraceptives, Barrier

methods

Answer:

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61. Drug called 'Heroin' is synthesized by

A. methylation of morphine

B. acetylation of morphine

C. glycosylation of morphine

D. nitration of morphine

Answer:

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62. In a species, the weight of newborn ranges form 2 to 5 kg. 97% of the newborn with an average weight between 3 to 3.3 kg survive

whereas 99 of the infants born with weights from

2 to 2.5 or 4.5 to 5 kg die. Which type of selection

process is taking place?

A. Directional Selection

B. Stabilizing Selection

C. Disruptive Selection

D. Cyclical Selection

Answer:

63. Conversion of glucose to glucose-6-phosphate, the first irreversible reaction of glycolysis, is catalyzed by :

A. Aldolase

B. Hexokinase

C. Enolase

D. Phosphofructokinase

Answer:

64. Which of the following statements is correct?

- A. Cornea is an external, transparent and protective proteinacious covering of the eye-ball
- B. Cornea consists of dense connective tissue

of elastin and can repair itself.

C. Cornea is convex, transparent layer which is

highly vascularised

D. Cornea consists of dense matrix of collagen

and is the most sensitive portion of the eye.



65. Which of the following' ecological pyramids is generally inverted?

- A. Pyramid of numbers in grassland
- B. Pyramid of energy
- C. Pyramid of biomass in a forest
- D. Pyramid of biomass in a sea



66. Consider the following statements:

(A) Coenzyme or metal ion that is tightly bound to enzyme protein is called prosthetic group,(B) A complete catalytic active cnzyme with its bound prosthetic group is called apoenzyme.Select the correct option

A. Both (A) and (B) are true.

B. (A) is true and (B) is false

C. Both (A) and (B) are false.

D. (A) is false and (B) is true

Answer:

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67. Due to increasing air-borne allergens a pollutants, many people in urban areas a suffering from respiratory disorder cause wheezing due to:

A. benign growth on mucous lining of nasal cavity

- B. inflammation of bronchi and bronchioles.
- C. proliferation of fibrous tissues and damage

of the alveolar walls.

D. reduction in the secretion of surfactants by

pneumocytes

Answer:

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68. Which one of the following statements regarding post-fertilization development in

flowering plants is incorrect?

- A. Ovary develops into fruit
- B. Zygote develops into embryo
- C. Central cell develops into endosperm
- D. Ovules develop into embryo sac

Answer:



69. Phloem in gymnosperms lacks :

A. Albuminous cells and sieve cells

B. Sieve tubes only

C. Companion cells only

D. Both sieve tubes and companion cells

Answer:



70. It takes very long time for pineapple plants to produce flowers. Which combination of hormones can be applied to artificially induce flowering in

pineapple plants throughout the year to increase

yield?

- A. Auxin and Ethylene
- B. Gibberellin and Cytokinin
- C. Gibberellin and Abscisic acid
- D. Cytokinin and Abscisic acid

Answer:



71. Persistent nucellus in the seed is known as

A. Chalaza

B. Perisperm

C. Hilum

D. Tegmen

Answer:



72. Cells in G0 phase :

A. exit the cell cycle

B. enter the cell cycle

C. suspend the cell cycle

D. terminate the cell cycle

Answer:

73. Match Column -I with Column -II

Column - I

- (a) Saprophyte
- (b) Parasite
- (c) Lichens (d) Mycorrhiza

Column - II

- Symbiotic association of fungi with plant roots
- (ii) Decomposition of dead organic materials
- (iii) Living on living plants or animals
- (iv) Symbiotic association of algae and fungi

Choose the correct answer from the options

A.

$$(a)$$
 (b)
 (c)
 (d)
 (i)
 (ii)
 (iii)
 (iv)

 B.
 (a)
 (b)
 (c)
 (d)
 (iii)
 (ii)
 (ii)
 (iv)

 C.
 (a)
 (b)
 (c)
 (d)
 (ii)
 (ii)
 (iii)
 (iv)

 D.
 (a)
 (b)
 (c)
 (d)

Answer:



74. What would be the heart rate of a person if the cardiac output is 5 L, blood volume in the ventricles at the end of diastole is 100 mL and at the end of ventricular systole is 50 mL ?

A. 50 beats per minute

B. 75 beats per minute

C. 100 beats per minute

D. 125 beats per minute



75. What triggers activation of protoxin to active toxin of Bacillus thuringiensis in boll worm

A. Body temperature

B. Moist surface of midgut

C. Alkaline pH of gut

D. Acidic pH of stomach

Answer:



76. The ciliated epithelial cells are required to move particles or mucus in a specific direction. In humans, these cells are mainly present in :

A. Bile duct and Bronchioles

B. Fallopian tubes and Pancreatic duct

C. Eustachian tube and Salivary duct

D. Bronchioles and Fallopian tubes

Answer:



77. Which of the statements given below is not true about formation of Annual Rings in trees?

A. Annual ring is a combination of spring wood and autumn wood produced in a year

B. Differential activity of cambium causes light

and dark bands of tissue - early and late

wood respectively

C. Activity of cambium depends upon variation

in climate

D. Annual rings are not prominent in trees of

temperate region

Answer:

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78. What is the fate of the male gametes discharged in the synergid ?

A. One fuses with the egg, other(s) degenerate(s) in the synergid

B. All fuse with the egg.

C. One fuses with the egg, other(s) fuse(s) with

synergid nucleus

D. One fuses with the egg and other fuses with

central cell nuclei.

Answer:



79. Elaborate EEG

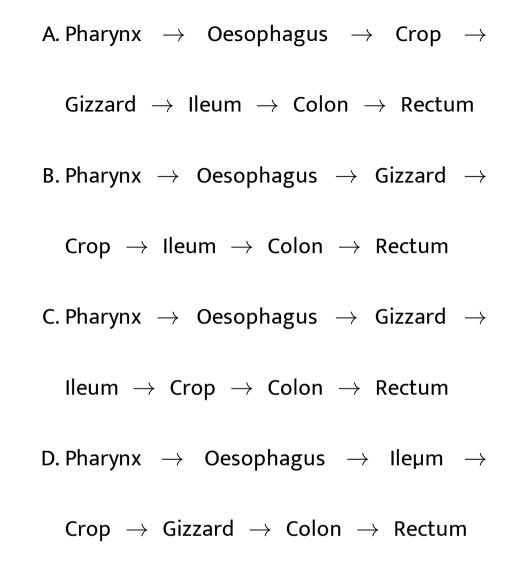
A. Electrocardiogram

- B. Electroencephalopathy
- C. Electroenteropathy
- D. Evencardiogram

Answer:

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80. Select the correct sequence of organs in the alimentary canal of cockroach starting from mouth:



Answer:

81. Identify the correct pair representing the causative agent of typhoid fever and the confirmatory test for typhoid.

A. Plasmodium vivax/UTI test.

B. Streptococcus pneumoniae/Widal test

C. Salmonella typhi/ Anthrone test

D. Salmonella typhi/Widal test

Answer:

82. How does steroid hormone influence the cellular activities?,

A. Changing the permeability of the cell membrane.

B. Binding to DNA and forming a geneormone complex.

C. Activating cyclic AMP located on the cell membrane

D. Using aquaporin channels as second messenger

Answer:



83. Tidal Volume and Expiratory Reserve Volume an athlete is 500 mL and 1000 mL respectively. What will be his Expiratory Capacity if the Residual Volume is 1200 mL?

A. 1500 mL

B. 1700 mL

C. 2200 mL

D. 2700 mL

Answer:

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84. Which of the following is a commercial blood

cholesterol lowering agent?

A. Cyclosporin A

B. statin

C. Streptokinase

D. Lipases



85. Which of the following statements regarding mitochondria is incorrect ?

A. Outer membrane is permeable to monomers of carbohydrates fats and proteins
B. Enzymes of electron transport are embedded in outer membrane C. Inner membrane is convoluted with

infoldings

D. Mitochondrial matrix contains single

circular DNA molecule and ribosomes

Answer:

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86. Give the application of ECG.

87. Select the correct group of biocontrol agents.

- A. Bacillus thuringiensis, Tobaccomosaic virus, Aphids
- B. Trichoderma, Baculovirus, Bacillus

thuringiensis

C. Oscillatoria, Rhizobiura, Trichoderma

D. Nostoc, Azospirillium, Nucleopolyhedrovirus

Answer:

88. Select the correctly written scientific name Mango which was first described by Carolus Linnaeus

A. Mangifera indica Car. Linn

B. Mangifera indica Linn

C. Mangifera indica

D. Mangifera Indica

Answer: