BIOLOGY

BOOKS - SARAS PUBLICATION

MODEL QUESTION PAPER 2

Exercise

1. ICBN stands for

A. Indian Congress of Biological Names

B. International Code of Botanical Nomenclature

C. International Congress of Biological Names

D. Indian Code of Botanical Nomenclature

Answer:

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2. Which one of the following shows, the hierarchial arrangement of taxonomic categories of plants descending order?

A.

$K \in gdomDivision \to Class \to Order - ÿFamily \to Species \to$

B.

$K \in gdom \to Division \to OrdersClass \to Family \to Gevs \to Sp$

C.

$K \in gdom \to Division \to Class - »Order \to Family \to Species$

D.

$K \in gdom \to Division \to Class \to Order \to Family \to Gevs \to$

Answer:

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3. Viruses have :

A. DNA enclosed in a protein coat

B. prokaryotic nucleus

C. single chromosome

D. Both DNA and RNA

Answer:

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4. Which statement is wrong for viruses

A. All are parasites

B. All of them have helical symmetry

C. They have ability to synthesise nucleic acids and proteins

D. Antibiotics have no effect on them

Answer:

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5. Which of the following is responsible for peat formation?

A. Marchantia

B. Riccia

C. Funaria

D. Sphagnum

Answer:

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6. Select the correctly matched ones I. Phaeophyceae - Mannitol,II. Rhodophyceae - Dictyota,III. Chlorophyceae - Nonmotile gametes,IV.Rhodophyceae - r-phycoerythrin

A. I, II and III

B. II, III and IV

C. I and III

D. I and IV

Answer:

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7. Cycas and Adiantum resemble each other in having

A. seeds

B. motile sperms

C. cambium

D. vessels

Answer:

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8. Pheretima and its close relatives derive nourishment from

A. soil insect

B. small pieces of fresh fallen leaves of maize,etc.

C. sugarcane roots

D. decaying fallen leaves and soil organic matter

Answer:

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9. Select the taxon mentioned that represents both marine and freshwater species

A. Echinodermata

B. Ctenophora

C. Cephalochordata

D. Cnidaria

Answer:

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10. Placenta and pericarp are both edible portions in

A. apple

B. banana

C. tomato

D. potato

Answer:

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11. Simple, cluster of radial leaves, stipulate and parallel venation leaves and cyme or umbel inflorescence are the characteristics of

A. Poaceae

B. Liliacease

C. Asteraceae

D. Fabacease

Answer:

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12. In woody trees, the exchange of gasses between the outer atmosphere and the internal tissue of the stem takes place through

A. aerenchyma

B. Stomata

C. Pneumatophores

D. lenticels

Answer:

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13. The ciliated columnar epithelial cells in humans are known to occur in.....

A. Eustachian tube and stomach lining

B. bronchioles and Fallopian tube

C. bile duct and oesophagus

D. Fallopian tube and urethra

Answer:

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14. What is true about ribosomes?

A. These are found only in eukaryotic cells

B. These are self - splicing introns of some RNAs

C. The prokaryotic ribosomes are 80 S, where 'S' stands for sedimentation coefficient

D. These are composed of ribonucleic acid and proteins

Answer:

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15. Which structures perform the function of mitochondria in bacteria?

A. Nucleoid

B. Ribosomes

C. Cell wall

D. Mesosomes

Answer:

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16. Which of the following hormones is a steroid?

A. estrogen

B. Insulin

C. Glucagon

D. Thyroxine

Answer:

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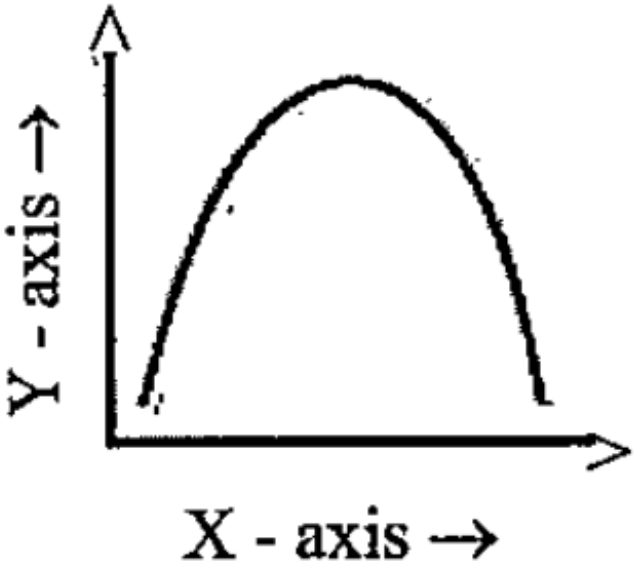
17. The curve given below shows enzymatic activity with relation to three conditions (pH, temperature and substrate concentration). What do the two axes (X and Y) represent?



A. Temperature - Enzyme activity

B. Substrate concentration - Enzymatic activity

C. Enzymatic-Temperature activity

D. Enzymatic - pH activity

Answer:

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18. The chiasmata is formed during which stage of prophase - I of the meiotic cell division

A. Diplotene

B. Pachytene

C. Leptotene

D. Zygotene

Answer:

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19. Phloem sap is mainly made of

A. water and sucrose

B. water and minerals

C. oligosaccharides and hormones

D. None of the above

Answer:

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20. Stomatal opening or closing is due to

A. change in the turgidity of guard cells

B. the inner walls of each guard cell is thick and elastic

C. cellulose microfibrils of guard cells are oriented radially

D. All of the above

Answer:

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21. Best defined function of manganese (Mn) in green plants is

A. hotolysis of water

B. Calvin cycle

C. nitrogen-fixation

D. water absorption

Answer:

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22. Anoxygenic photosynthesisis characteristic of

A. Rhodospirillum

B. spirogyra

C. Chlamydomonas

D. Ulva

Answer:

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23. Match the organic compounds list under column I with the explanation given under column II, choose the appropriate option from the given choice:

column I	column II
A. Phosphoenol pyruvate (PEP)	1. 6-carbon compound
B. Ribulose Bisphosphate (RuBP)	2. 2-carbon compound
C. Oxaloacetic Acid (OAA)	3. 4-carbon compound
D. Acetyl co-enzyme- A	4. 5-carbon compound
	5. 3-carbon compound

A. A) 3,B) 4,C) 2,D)1

B. A) 2,B) 3,C) 4,D)5

C. A) 5,B) 4,C) 3,D)2

D. A) 5,B) 1,C) 2,D)3

Answer:

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24. Kreb's cycle takes place in

A. cytoplasm

B. chloroplast

C. nucleus

D. mithochondria

Answer:

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25. Which one of the following reactions is an example of oxidative decarboxylation?

A. Conversion of succinate to fumarate

B. Conversion of fumarate of malate

C. Conversion of pyruvate to acetyl Co-A

D. Conversion of citrate to isocitrate

Answer:

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26. Phototropic curvature is the result of uneven distribution of

A. gibberellin

B. phytochrome

C. cytokinins

D. auxin

Answer:

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27. The initial step inthe digestion of milk in humans is carried out by?

A. Lipase

B. Trypsin

C. Renin

D. Pepsin

Answer:

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28. If for some reason our goblet cells are non-functional this will adversely affect

A. production of somatostatin

B. secretion of sebum from the sebaceous glands

C. maturation of sperms

D. smooth movement of food downwards the intestine

Answer:

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29. After forceful inspiration, the amount of air that can be breathed out by maximum forced expiration is equal to

A. Inspiratory Reserve Volume (IRV) + Expiratory Reserve Volume (ERV) + Tidalm Volume (TV) + Residual Volume (RV)

B. IRV+RV+ ERV

C. IRV + TV + ERV

D. TV+RV+ERV

Answer:

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30. Which of the following matches correctly?

A. Inferior vena-receives deoxygenated blood from the head and body

B. Superior vena cavareceives deoxygenated blood from the lower body and organs

C. Pulmonary artery-carries deoxygenated blood to the lungs

D. Hepatic artery-carries deoxygenated blood to the liver

Answer:

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31. Arteries are best defined as the vessels which?

A. carry blood from one visceral organ to another visceral organ

B. supply oxygenated blood to the different organs

C. carry blood away from the heart to different organs

D. break up into capillaries which reunite to from a vein

Answer:

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32. Juxtaglomerular apparatus is made up of

A. uxtaglomerular cell, macula densa and lacis cell

B. juxtaglomerular cell, Purkinje cell and chief cell

C. juxtaglomerular cell, lacis cell and myoepithelial cell

D. juxtaglomerular cell, macula densa and argentaffin cell

Answer:

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33. Stimulation of amuscle fibre by a motor neuron occurs at

A. the neuromuscular junction

B. the transverse tubules

C. the myofibril

D. the sarcoplasmic reticulum

Answer:

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34. Which of die following is not to the a sesamoid bone?

A. Radius

B. Patella

C. Fibula

D. Pisiform

Answer:

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35. The purplish red pigment rhodopsin contained in the rods type of photoreceptor cell of the human eyes is a derivation of

A. vitamin-C

B. vitamin-D`

C. vitamin-A

D. vitamin-B

Answer:

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36. Cranial meninges do not consist of

A. dura mater

B. arachnoid

C. piameter

D. corpus callosum

Answer:

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37. Identify the hormone with its correct matching of source and function

A. Oxytocin-posterior pituitary,, growth and maintenance of mammary glands

B. Melatonin-pineal gland, regulates the normal rhythm of sleep-wake cycle

C. Progesterone-corpus luteum, stimulation of growth and activities of female secondary organs

D. Atrial natri uretic factor ventricular wall increases the blood pressure

Answer:

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38. Flight or fight reactions cause activation of

A. the parathyroid glands,leading to increased metabolic

B. the kidney, leading to suppression of reninangiotensin-aldosterone pathway

C. the adrenal medulla,leading to increased secretion of epinephrine and nor-epinephrine

D. the pancreas leading to reduction in the blood sugar levels

Answer:

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39. Which one of the following pairs is incorrectly matched?

A. Glucagon-Beta cells (source)

B. Somatostatin-Delta cells (source)

C. Corpus luteum-Relaxin (secretion)

D. Insulin-Diabetes mellitus

Answer:

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40. Which one of the following shows isogamy with nonflagellated gametes?

A. Sargassum

B. Ectocarpus

C. Ulothrix

D. Spirogyra

Answer:

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41. Which one of the following is wrong about Chara?

A. Upper oogonium and lower round antheridium

B. Globule and nucule present on the same plant

C. Upper antheridium and lower oogonium

D. Globule is male reproductive structure

Answer:

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42. Geitonogamy involves

A. fertilisation of a flower by the pollen from another flower of the same plant

B. fertilisation of a flower by the pollen from the same flower

C. fertilisation of a flower by the pollen from a flower of another plant in the same population

D. fertilisation of a flower by the pollen from a flower of another plant belonging to distant population

Answer:

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43. When pollen grains of a flower, pollinate the stigma of another flower of the same plant, it is called

A. Dichogamy

B. Herkogamy

C. Geitonogamy

D. Autogamy

Answer:

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44. How many nuclei take part in double fertilisation of flowering plants?

A. 3

B. 2

C. 4

D. 8

Answer:

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45. Which of the following is devoid of glands

A. Ulterus

B. Vagina

C. Vulva

D. Oviduct

Answer:

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46. Axial filaments of sperm arises from

A. proximal centrirole

B. distal centriole

C. acrosome

D. nucleus

Answer:

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47. What is Artificial insemination?

A. transfer of sperms of a healthy donor to a test tube containing ova

B. transfer of sperms of husband to a test tube containing ova

C. artificial introduction of sperms of a healthy donor into the vagina

D. introduction of sperms of healthy donor directly into the ovary

Answer:

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48. Which one of the following is the mostly widely accepted method of contraception in India, as at present?

A. Tubectomy

B. Diaphragms

C. Cervical caps

D. IUDs

Answer:

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49. A man whose father was colourblind marriesa woman, who had a colour blind mother and normal father.What percentage of male children of this couple will be colour blind?

A. 0.25

B. 0

C. 0.5

D. 0.75

Answer:

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50. A test cross is carried out to

A. determine the genotype of a plant at F2

B. predict whether two traits are linked

C. assess the number of alleles of a gene

D. determine whether two species or varieties will breed successfully

Answer:

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51. Which one of the following cannot be explained on the basis of Mendel's law of dominance?

A. The discrete unit controlling a particular character is called a factor

B. out of one pair of factors one is dominant, and the other is recessive

C. Alleles do not show, any blending and both the characters recover as such in F_2-generation

D. Factors occur in pairs

Answer:

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52. Which of the following species are restricted to an area?

A. Sibling species

B. Endemic species

C. Allopatric species

D. Sympatric species

Answer:

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53. Convert sequence of stagess in evolution of modern man/Homosapien sapien.

A. Shortening of jaws

B. Binocular vision

C. Increasing cranial capacity

D. Upright posture

Answer:

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54. Which of the following human parasites require mosquito to complete their life cycle?

A. Ascaris lumbricoides and Wuchereria bancrofti

B. Leishmania donovani and Plasmodium ovale

C. Ascaris lumbricoides and Leishmania donovani

D. Wuchereria bancrofti and Plasmodium ovale

Answer:

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55. Hepatitis-B virus is

A. hepadnavirus

B. variolavirus

C. retrovirus

D. picornavirus

Answer:

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56. Himagiri developed by hybridisation and selection for disease resistance against rut pathogens is a variety of ___

A. maize

B. sugarcane

C. wheat

D. chilli

Answer:

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57. Breeding of crops with high levels of minerals , vitamins and proteins is called:

A. somatic hybridisation

B. biofortification

C. biomagnification

D. micropropagation

Answer:

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58. What gases are produced in anaerobic sludge digesters?

A. Methane and CO_2 only

B. Methane, hydrogen sulphide and CO_2

C. Methane, hydrogen sulphide and O_2

D. Hydrogen sulphide and CO_2

Answer:

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59. Roquefort cheese' is ripened by using a

A. type of yeast

B. fungus

C. bacterium

D. cyanobacteria

Answer:

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60. Match thefollowing columns

Column I	Column II
A. BOD	1. Treatment of sewage
B. KVIC	2. Measure of organic matter in water
C. LAB	3. Biological methods for controlling plant diseases
D. STPs	4. Increase vitamin-B12
	5. Production of biogas

A. A) 4,B) 3,C) 2,D)5

B. A) 5,B) 2,C) 3,D)1

C. A) 2,B) 1,C) 4,D)5

D. A) 2,B) 5,C) 4,D)1

Answer:

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61. Microorganism used for commercial production of acetic acid is

A. Saccharomyces cerevisiae

B. Aspergillus niger

C. Acetobacter

D. Clostridium butylicum

Answer:

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62. which one of the following is an example of carrying out biological control of $pests / diseases$ using microbes?

A. Trichoderma sp. Against certain plant pathogens

B. Nucleopolyhedrovirus against white rust in Brassica

C. Bt-cotton to increase cotton yield

D. all the above

Answer:

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63. An anylysis of chromosomal DNA using the southern hybridisation technique does not use

A. electrophoresis

B. blotting

C. autoradiography

D. PCR

Answer:

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64. DNAor RNA segment tagged with a radioactive molecule is called

A. vector

B. probe

C. clone

D. plasmid

Answer:

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65. Bt cotton is resistant to

A. insects

B. herbicides

C. salt resistant

D. drought resistant

Answer:

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66. The first clinical gene therapy was done for the treatment of

A. diabetes mellitus

B. chickenpox

C. rheumatoid arthritis

D. adenosine deaminase deficiency

Answer:

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67. Some of the charcteristics of Bt cotton are

A. long fibre and resistance to aphids

B. medium yield, long fibre and resistance to beetle pests

C. high yield and production of toxic protein crystals which kill dipteran pests

D. high yield and resistance to boll worms

Answer:

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68. Consumption of which one of the following foods can prevent the kind of blindness associated with vitamin-A deficiency?

A. Flavr Savr tomato

B. Canola

C. Golden rice

D. Bt brinjal

Answer:

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69. The organisms restricted to narrow range of temperature are called

A. stenothermal

B. biothermal

C. eurythermal

D. geothermal

Answer:

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70. A sedentary sea anemone gets attached to the shell lining of hermit crab. The association is

A. ectoparasitism

B. symbiosis

C. commensalism

D. amensalism

Answer:

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71. The second stage of hydrosere is occupied by plants like

A. Azolla

B. Typha

C. Salix

D. Vallisneria

Answer:

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72. Which one of the following statements is correct for secondary succession?

A. It occurs on a deforested site

B. It follows primary succession

C. It is similar to primary succession except that it has a relatively fast pace

D. It begins on a bare rock

Answer:

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73. Which one among these is not an ex situ conservation strategy?

A. Seed banks

B. Botanical gardens

C. Cryopreservation

D. Biosphere reserves

Answer:

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74. The term 'alpha diversity' refers to

A. genetic diversity

B. community and ecosystem diversity

C. species diversity

D. diversity among the plants

Answer:

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75. Silent Valley is tropical evergreen forest located in

A. Kerala

B. Karnataka

C. Maharashtra

D. Odisha

Answer:

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76. The domestic sewage in large cities

A. has a high BOD as it contains both aerobic and anaerobic bacteria

B. is processed by aerobic and then anaerobic bacteria in the secondary treatment in Sewage Treatment Plants (STPs)

C. When treated in STPs does not really require the aeration step as the sewage contains adequate oxygen

D. has very high amounts of suspended solids and dissolved salts

Answer:

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77. Causative agent of bubonic plague is transmitted by

A. Aedes

B. Xenopsylla

C. Cimex

D. Cockroach

Answer:

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78. Deficiency of Vit B_{12} caused

A. Pellagra

B. Anaemia

C. Neuritis

D. Dry skin

Answer:

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79. Trypsinogen is activated by an enzyme..... secreted by intestinal mucosa

A. Erepsin

B. Enterokinase

C. Carboxy peptidase

D. Enterogastrone

Answer:

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80. The part of neuron that receives nerve impulse and pass on graded electric potential towards the soma are

A. Dendrites

B. Axon

C. Axon hillock

D. Myelin sheath

Answer:

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81. Location of leydig cells and their secretions are:

A. Ovary - Estrogen

B. Liver - Cholesterol

C. Pancreas - Glucagon

D. Testis - Testosterone

Answer:

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82. Which of these is not a green house gas

A. CFC

B. SO_2

C. O_3

D. N_2O

Answer:

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83. In the following table,method of birth control along the device are given, which of the following is not a correct match?

A. Barrier-Condoms, diaphragms

B. IUDs-cervical caps,Multiload 375,CuT,Cu7

C. Surgical technique- Vasectomy and tubectomy

D. Administering hormones- Saheli,POP

Answer:

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84. Name the bioactive molecule used as an immunosuppressant. Name the microbe that produces this molecule.

A. TPA

B. Statins

C. Cyclosporin

D. All of these

Answer:

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85. When the intensity of a light source is increased.

A. Coffee,Cotton

B. Rice,Sugar beat

C. Tomato,Maize

D. Sugarcane,Cocklebur

Answer:

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86. The synthetic auxin which is widely used to kill dicotyledonous weeds is

A. Indole- butric acid

B. 2,4-D

C. Naphthalene acetic acid

D. Indole acetic acid

Answer:

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87. Taq polymerase enzyme used rDNA technology is extracted from

A. Saccharomyces cerevisiae

B. Methylophilus

C. Thermus aquaticus

D. Salmonella typhimurium

Answer:

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88. Natural genetic engineer of plants' is

A. Bacillus thuringiensis

B. Meloidogyne incognita

C. Agrobacterium tumefacien

D. Pseudomonas putida

Answer:

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89. Bacteria that can fix atmospheric nitrogen while free living in the soil is

A. Rhizobium

B. Aulosira

C. Azospirillum

D. Anabaena

Answer:

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90. Volume of air inspired or expired during a normal respiration is called?

A. Tidal volume

B. Inspiratory Reserve Volume

C. Expiratory Reserve Volume

D. Residual Volume

Answer:

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