BIOLOGY

BOOKS - NTA MOCK TESTS

NTA NEET SET 28

Biology

1. Which of the following does not belong to the same taxonomic Family?

A. Solanum nigrum

B. Petunia axillaris

C. Datura innoxia

D. Pisum sativum

Answer: D

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2. The heart sound heard on the stethoscope when the blood pressure in the artery maximum is due to

A. Closure of semi-lunar valves

B. Closure of atrio-ventricular valves

C. Opening of semi-lunar valves

D. Opening of atrio-ventricular valves

Answer: B

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3. Which of the following combination of parents can produce a child with erythroblastosis fetalis?

A. Rh-ve Mother and Rh+ve Father

B. Rh+ve Mother and Rh-ve Father

C. Rh+ve Mother and Rh+ Father

D. Rh-ve Mother and Rh-ve Father

Answer: A

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4. Which of theses statements about proximal convoluted tubule is/are true?

I. it is lined by simple columnar brush border

epithelium which increases the surface area for reabsorption.

II Nearly all of the essential nutrients and 70%-80% of electrolytes and water are reabsorbed by this segment.

III. It selectively secretes hydrogen ions, ammonia and potassium ions into the filtrate.

IV. It is the most convoluted part of the nephron and is present in the medullary region of the kidney.

A. I and IV

B. I, II and III

C. II and III

D. I, II, III and IV

Answer: C

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5. Select the correct arrangement of organisms in increasing order of the number of chromosomes present in their gametes.

A. Cat lt Dog lt Potato lt Human

B. Dog lt Cat lt Potato lt Human

C. Dog lt Human lt Cat lt Potato

D. Cat lt Human lt Potato lt Dog

Answer: D

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6. Identify the option with correct labelings A-F from the given diagram of castor seed.

	A	B	C	D
I.	Collects vibrations in air and produces sound	Vibrates in response to sound waves	Generates waves in the lymph	Equalizes pressure on either side of eardrum
II.	Collects vibrations in air and produces sound	Vibrates in response to sound waves	Equalizes pressure on either side of eardrum	Generates waves in the lymph
III.	Collects vibrations in air and produces sound	Equalizes pressure on either side of eardrum	Vibrates in response to sound waves	Generates waves in the lymph
IV.	Vibrates in response to sound waves	Generates waves in the lymph	Collects vibrations in air and produces sound	Equalizes pressure on either side of eardrum

A. A-Testa, B-Endosperm, C-Cotyledon, D-Tegmen, E-Radicle, F-Caruncle.

B. A-Tegmen, B-Endosperm, C-Cotyledon, D-Testa, E-Radicle, F-Caruncle.

C. A-Tegmen, B-Endosperm, C-Cotyledon, D-Testa, E-Plumule, F-Caruncle.

D. A-Testa, B-Endosperm, C-Cotyledon, D-Tegmen, F-Caruncle

Answer: A

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7. The events in pollen- pistil interaction includes all, except

A. Pollen deposition on the stigma until pollen tubes reach the ovary.

B. Release of pollen from one flower to the formation of pollen tubes.

C. Pollen deposition on the stigma until the formation of pollen tubes.

D. Pollen deposition on the stigma intil pollen tubes the ovule

Answer: D

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8. Which pf the following conditions are seen because of the structure and arrangement of

flower in maize and papaya?

		Maize	Papaya
I.	Autogamy	Prevented	Prevented
	Geitonogamy	Prevented	Prevented
II.	Autogamy	Prevented	Prevented
	Geitonogamy	Prevented	Allowed
III.	Autogamy	Allowed	Prevented
	Geitonogamy	Prevented	Allowed
IV.	Autogamy	Prevented	Prevented
	Geitonogamy	Allowed	Prevented

A. I and IV

B. II

C. III

D. IV

Answer: D

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9. The number of male gametes and the number of meiotic divisions required for the formation of 100 seeds in a typical angiosperm is

A. 100 male gametes and 125 meiotic division

B. 200 male gametes and 125 meiotic divisions

C. 100 male gametes and 25 meiotic divisions

D. 200 male gametes and 25 meiotic divisions

Answer: B

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10. Which of the following parts of the flower are incorrectly matched?

A. Microsporophyll - stamen

B. Microspore - pollen grain

C. Megasporophyll - carpel

D. Megaspore - ovule

Answer: D

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11. There are five alleles of a particular gene in a population. The total number of different genotypes (for this allele) in the population will be

A. 5

B. 15

C. 25

D. 30

Answer: B

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12. When two pure pea plants one having round seeds and the other having wrinkled seeds are crossed, their offsprings have

A. Large starch grain

B. Small starch grain

C. Intermediate starch grain

D. Large starch grain and intermediate starch grain is equal proportion

Answer: C

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13. Which of the following options correctly represents the properties of queen, drone and worker in a beehive?

A. Queen - diploid fertile female, Drone- haploid fertile male, Worker- diploid sterile female

B. Queen-haploid fertile female, Drone- haploid fertile male, Worker- diploid

sterile female

C. Queen-diploid sterile female, Drone-haploid sterile male, Worker- diploid fertile female

D. Queen-haploid fertile female, Drone-haploid fertile male, Worker-haploid sterile female

Answer: A

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14. A woman with normal vision whose mother was colourblind married a man with normal vision. The woman is pregnant with her first child. What is the probability that the cild will be a colour blind boy?

A. $1/4$

B. $1/2$

C. $3/4$

D. 0

Answer: A

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15. Human skin colour is controlled by 3 genes A, B and C. Which of the following genotypes will have a skin colour different from the rest?

A. AaBbCc

B. AAbbCc

C. aabBCC

D. AabbCc

Answer: D

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16. What proportion of offsprings are monohybrids in a dihybrid cross?

A. $50\ \%$

B. $25\ \%$

C. $12.5\ \%$

D. $6.25\ \%$

Answer: A

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17. A particular species of animals had three coat colors: White, yellow and black. A population of this species in Africa has more number of yellow animals and less number of white and black animals. After hundreds of years, the species evolved having very few yellow animals. The white and black animals were almost similar in quantity. The type of natural selection seen in this example is

A. Stabilising selection

B. Directional selection

C. Disruptive selection

D. It could be both stabilising and disruptive selection

Answer: C

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18. The placental mammal which is similar to Australian marsupial spotted cuscus is

A. Lemur

B. Bobcat

C. Numbat

D. Wolf

Answer: A

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19. Which of these has not evolved from Psilophyton?

A. Sphenopsids

B. Ferns

C. Arborescent Lycopods

D. Ginkgos

Answer: C

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20. Himgiri is a variety of

A. Wheat wbhich is resistant to white rust

B. Cauliflower which is resistant to black rot and curl blight blavk rot

C. Cauliflower which is resistant to bacterial blight

D. Wheat which is resistant to leaf and stripe rust and hill bunt disease

Answer: D

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21. The biome in which the mean annual temperature is approximately between $20^\circ C \text{ and } 25^\circ C$ and the mean annual precipitation is approximately between 150 cm to 450 cm is

A. Temperate forest

B. Tropical forest

C. Conifer forest

D. Alpine tundra

Answer: B

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22. Intrinsic rate of natural increase is

A. The sum of birth rates and death rates

B. The difference between birth rates and death rates

C. The sum birth rate and immigration

D. The difference between sum of bith rate and immigration and sum of death rate and emigration

Answer: B

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23. In a terrestrial ecosystem,

A. A similar proportion of energy flows through the grazing food chain as compared to the detritus food chain.

B. A smaller proportion of energy flows through the detritus food chain as

compared to grazing food chain.

C. Equal proportion of energy flows through detritus food chain and grazing food chain

D. No energy flows through detritus food chain and grazing food chain.

Answer: A

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24. Which of these is/are limitation/s of ecological pyramids?

I. Decomposers are not given any place in ecological pyramids.

II. Ecological pyramids do not accommodate a food web.

III. Ecological pyramids may be upright or inverted.

IV. They don't consider omnivores in two different trophic levels.

A. III

B. II and IV

C. I, II and IV

D. II, III and IV

Answer: C

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25. Decomposition is

A. The process of recycling of nutrient in the ecosystem

B. Anaerobic process

C. Faster if detritus is rich in lignin and chitin

D. Slower in warm and moist enviroment

Answer: A

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26. The conclusion of David Tilman regarding the biodiversity of organisms is

A. Increased species diversity contributed to lower productivity

B. Decreased species diversity contributed to higher productivity

C. Increased species diversity contributed to higher productivity

D. Organisms in colder areas have shorter limbs

Answer: C

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27. Read the following statements about biodiversity and state the one which is false.

A. Western Ghats have a greater amphibian species diversity than the Eastern Ghats

B. Alpine meadows has a greater ecosystem diversity than a Scandinavian country like Norway

C. Among animals, insects are the most species-rich taxonomic group

D. New York has more bird species than Columbia

Answer: D

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28. The relation between species richness and area for a wide variety of taxa (angiosperm plants, birds, bats, freshwater fishes) is a

A. Parabola

B. Rectangular hyperbola

C. Ellipse

D. Straight line

Answer: B

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29. For hills, the National Forest Policy (1988) of India recommends _____ % forest cover.

A. $67\ \%$

B. $33\ \%$

C. $45\ \%$

D. 23

Answer: A

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30. After carbon dioxide, the gas which contributes maximum to global warming is

A. Chlorofluorocarbons $(25\ \%)$

B. Methane $(20\ \%)$

C. Chlorofluorocarbons $(20\ \%)$

D. Methane $(45\ \%)$

Answer: B

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31. A phylum in which the digestion is intracellular as well as extracellular and polyp body form is seen includes organisms which:

A. Are triploblastic.

B. Show internal fertilization and indirect development.

C. Have special cells called choanocytes.

D. Have a central gastro-vascular cavity with a single opening.

Answer: D

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32. Match the organisms given in column I with their respective phylum given in column II and select the correct option from the codes given below.

Column I (Organisms)	Column II (Phylum)
I. Sea Anemone	A. Platyhelminthes
II. Liver fluke	B. Echinodermata
III. *Ascaris*	C. Coelenterata
IV. *Asterias*	D. Aschelminthes

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

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

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

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

Answer: D

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33. Complete the following paragraph by selecting the correct options for the blanks A, B and C.

Saliva is mainly produced by three pairs of salivary glands, the .....A..... (cheek), the .....B..... (lower jaw) and the . (below

the tongue). These glands situated just outside the buccal cavity secrete salivary juice into the buccal cavity.

A. A: Sublingual, B: Parotid, C: Sub-Maxillary/Sub-Mandibular

B. A: Sub-Maxillary/Sub-Mandibular, B:Sublingual, C: Parotid

C. A: Parotid, B :Sub-Maxillary/Sub-Mandibular, C: Sublingual

D. A: Lingual, B: Parotid, C: Maxillary

Answer: C

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34. The steps involved in the mechanism of muscle contraction are given below.

Arrange the steps in proper sequential order and select the correct option.

I. Release of calcium ions in the sarcoplasm.

II. Signal sent by the CNS via a motor neuron.

III. Binding of calcium with a subunit of troponin on actin filaments.

IV. Generation of the action potential in the sarcolemma.

V. Binding of myosin head to the exposed active sites on actin to form a cross-bridge.

VI. Inward pulling of ‘Z’ line attached to actin causing shortening of the sarcomere.

VII. Pulling of the attached actin filaments towards the centre of 'A' band.

VIII. Release of neurotransmitter acetylcholine and generation of the action potential in the sarcolemma.

A. III, II, V, I, IV, VI, VII, VIII

B. II, VIII, IV, I, III, V, VII, VI

C. I, VIII, VI, II, V, IV, III, VII

D. II, IV, V, I, III, VII, VIII, VI

Answer: B

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35. Which of the following statements is correct about skeletal muscle?

A. They have thin, elongated cells with tapering ends.

B. They show faint striations and help in movement.

C. They are derived from mesoderm and are voluntary in action.

D. They have intercalated discs interconnecting the various cells.

Answer: C

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36. Which of the following statements are true regarding the hypothalamus?

A. It is situated at the base of rhombencephalon.

B. It has centres for breathing and respiration.

C. It has centres which control body temperature, urge for eating and drinking.

D. It is connected to the posterior pituitary with hypothalamo-hypophyseal portal system.

Answer: C

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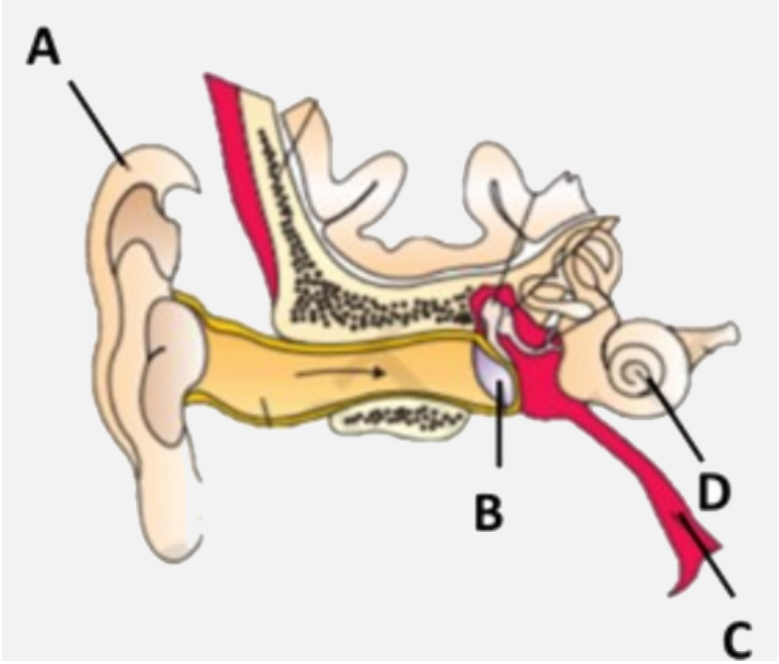
37. Identify the functions of A, B and C in the given diagram and select the correct option after referring to the table.


A
B
C
D

	A	B	C	D
I.	Collects vibrations in air and produces sound	Vibrates in response to sound waves	Generates waves in the lymph	Equalizes pressure on either side of eardrum
II.	Collects vibrations in air and produces sound	Vibrates in response to sound waves	Equalizes pressure on either side of eardrum	Generates waves in the lymph
III.	Collects vibrations in air and produces sound	Equalizes pressure on either side of eardrum	Vibrates in response to sound waves	Generates waves in the lymph
IV.	Vibrates in response to sound waves	Generates waves in the lymph	Collects vibrations in air and produces sound	Equalizes pressure on either side of eardrum

A. I

B. II

C. III

D. IV

Answer: B

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38. Select the correct statement regarding the pituitary gland from the following.

A. The pars distalis region of the adenohypophysis secretes only one hormone called melanocyte stimulating hormone (MSH).

B. GnRH is produced by the pituitary gland which stimulates the release of gonadotropins from the hypothalamus.

C. Oxytocin and vasopressin are produced by the hypothalamus and released by the posterior pituitary.

D. The hypothalamus is under the direct neural regulation of the posterior pituitary.

Answer: C

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39. A female is having excessive weight gain in spite of having adequate balanced diet. She also complains of fatigue and tiredness. Her menstrual cycle is also irregular since past few

months. Which of the following conditions is she suffering from?

A. Hyperthyroidism

B. Hypothyroidism

C. Tetany

D. Diabetes mellitus

Answer: B

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40. Read the statement given below. Identify which of them are true and which of them are false. Select the correct option after referring to the given table.

A. The pituitary gland is present in a bony cavity of the skull known as sella tursica.

B. The pancreas is only an endocrine gland.

C. The diurnal rhythm of the body is maintained by the pineal gland.

D. Glucocorticoids stimulate glycolysis, lipolysis and proteolysis.

A. A - True, B - False, C - True, D - False

B. A - False, B - True, C - False, D - True

C. A - True, B - False, C - True, D - True

D. A - False, B -True, C - True, D - True

Answer: A

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41. Just prior to ovulation, there is:

A. low FSH, high LH and high estrogen

B. low FSH, high LH and low estrogen

C. high FSH, low LH and high estrogen

D. high FSH, high LH and high estrogen

Answer: D

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42. Scrotum in human males contains:

A. Testis and epididymis

B. Testis, vasa efferentia and epididymis

C. Testis, vasa efferentia, epididymis and a small part of vas deferens

D. Testis, vasa efferentia, epididymis, a small part of vas deferens and ejaculatory duct

Answer: C

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43. The clitoris is a tiny finger-like structure, which lies at:

A. the upper junction of the two labia minora above the urethral opening.

B. the upper junction of the two labia minora below the urethral opening.

C. the lower junction of the two labia minora above the urethral opening.

D. the lower junction of the two labia minora below the urethral opening.

Answer: A

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44. Case: A lady is 15 weeks pregnant. Various tests confirm that if her child was born, it would suffer from a serious illness leading to a serious handicap. What is the best-suggested option to this case as per the Medical

Termination of Pregnancy (Amendment) Act, 2017?

A. MTP can't be performed

B. MTP can be easily performed without any restrictions

C. MTP can be performed only if two registered medical practitioners agree to it

D. MTP can be performed only after determination of sex of the baby

Answer: B

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45. Which of the following statements are correct regarding sterilisation?

I. Sterilisation is a form of permanent contraception.

II. Sterilisation inhibits gametogenesis.

III. Sterilisation can be done both in males and females.

IV. Tubectomy is the sterilisation procedure done in males.

A. I and II

B. I and III

C. III and IV

D. III and II

Answer: B

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46. Select the incorrect statements regarding AIDS from the following:

I. AIDS is caused by a retrovirus have two molecules of single-stranded RNA as its genome.

II. AIDS can be successfully treated using anti-retroviral drugs

III. Macrophages act as a viral factory as it leads to the continuous production of new viral particles.

IV. In AIDS, a decrease in B-lymphocyte count is seen.

A. II and IV

B. I and III

C. I and II

D. III and IV

Answer: A

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47. In a typical antibody, disulphide bonds are not seen in which of the following?

A. between heavy chain and light chain

B. between two heavy chains

C. between two light chains

D. within the heavy chain

Answer: C

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48. Heroin or brown sugar is:

A. brown, odourless, sweet, crystalline compound

B. brown, odourless, sweet, amorphous compound

C. white, odourless, bitter, crystalline compound

D. white, odourless, bitter, amorphous compound

Answer: C

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49. Flocs, which are used in the secondary treatment of sewage, aure:

A. masses of bacteria in symbiosis with algae

B. foliose lichens

C. masses of fungi associated with algae

D. masses of bacteria associated with fungal filaments forming mesh like structures

Answer: D

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50. 'Toddy' is produced by:

A. fermented rice batter and coconut milk

B. fermentation of sap from palms

C. heating whole bulbs of garlic over the course of several weeks

D. pickled vegetables

Answer: B

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51. Halophiles are:

A. prokaryotes that live in marshy areas

B. eukaryotes that live in fresh water ponds

C. prokaryotes that live in salty areas

D. eukaryotes that live in hot springs

Answer: C

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52. Which of the following statements regarding slime moulds is true ?

A. They show autotrophic mode of nutrition.

B. The spores produced by them in harsh environments, possess true walls.

C. Slime moulds form aggregation called vegetation.

D. The spores produced by them require water for dispersal.

Answer: B

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53. Match the fungus with its group.

Column I	Column II	Column III
Rhizopus	Ascomycete	Smut fungi
Penicillium	Phycomycete	Sac fungi
Ustilago	Deuteromycete	Bread mould
Colletotrichum	Basidiomycete	Imperfect fungi

A. 1 - iii - b, 2 - i- a, 3 - iv - c, 4 - ii - d

B. 1 - ii - c, 2 - i- b, 3 - iv - a, 4 - iii - d

C. 1 - iv - c, 2 - iii - a, 3 - i- d, 4 - ii - b

D. 1 - i- d, 2 - ii - c, 3 - iii - b, 4 - iv - a

Answer: B

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54. The fungus Neurospora, which is extensively in genetics and biochemical work, belongs to

A. Phycomycetes

B. Zygomycetes

C. Basidiomycetes

D. Ascomycetes

Answer: D

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55. Which of the following options about algae and their respective chlorophylls is correct ?

A. Phaeophyceae - chl a, chl b and fucoxanthin, Rhodophyceae- chl a, chl d and phycoerythrin, and Chlorophyceae - chl a and chl c

B. Rhodophyceae - chl a, chl b and phycoerythrin, Chlorophyceae - chl a and chl d, and Phaeophyceae chl a, chl c and fucoxanthin

C. Chlorophyceae - chl a and chl b, Rhodophyceae - chl a, chl d and

phycoerythrin and Phaeophyceae - chl a, chl c and fucoxanthin

D. Chlorophyceae - chl a and chl b, Phaeophyceae – chl a, chl d and fucoxanthin, and Rhodophyceae – chl a, chl c and phycoerythrin

Answer: C

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56. Prothallus can be defined as a:

A. Dioecious autotrophic gametophyte found in pteridophytes

B. Monoecious heterotrophic sporophyte found in bryophytes.

C. Dioecious autotrophic gametophyte found in bryophytes.

D. Monoecious heterotrophic sporophyte found in pteridophytes

Answer: A

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57. Which of the following statement regarding cymose inflorescence is incorrect ?

A. The members of genus Solanum show solitary or cymose inflorescence.

B. The arrangement of flowers shows basipetal arrangement.

C. The main axis of inflorescence terminates into a flower.

D. The older flowers are borne at the base and the younger ones at the apex.

Answer: D

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58. Which of the following statements about the Fabaceae family is incorrect ?

A. Ornamental plants such as lupin, petunia and sweet pea are included in this group

B. They have diadelphous stamens and their anthers are dithecous

C. Their sepals may show valvate or imbricate aestivation

D. They have a monocarpellary gynoecium with a superior ovary

Answer: A

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59. Which of the following shows opposite phyllotaxy ?

A. China rose

B. Sunflower

C. Calotropis

D. Alstonia

Answer:

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60. How many of the following plants belong to a family whose flowers have six tepals and six epitepalous stamens ?

[Colchicine, Aloe, gram, potato, Gloriosa, tomato, sweet pea, Asparagus, groundnut, tulip]

A. Four

B. Five

C. Two

D. Six

Answer: B

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61. Read these statements about meristematic tissues. Which amongst them are correct ?

I. Apical meristem is found at the root and shoot apices of the plant.

II. Intercalary meristem is a secondary meristematic tissue.

III. The lateral meristem is found in the matured regions of the root and shoot.

IV. Lateral meristematic tissue contributes in the secondary growth of the plant.

A. Only I

B. II and III

C. I, III and IV

D. I and III

Answer: C

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62. The correct statement about stomata is

A. Guard cells are often dumb bell shaped in dicots and bean shaped in monocots

B. Guards cells are epidermal cells with chloroplasts

C. The inner wall of the guard cells is thin while the outer wall is thick

D. The subsidiary cells are epidermal cells with chloroplasts

Answer: B

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63. Identify the correct sequence of pathway of water through the root tissues:

A. Root hair $\rightarrow$ Cortex $\rightarrow$ Endodermis $\rightarrow$ Pericycle $\rightarrow$ Xylem

B. Xylem $\rightarrow$ Endodermis $\rightarrow$ Pericycle $\rightarrow$ Cortex $\rightarrow$ Root hair

C. Endodermis $\rightarrow$ Xylem $\rightarrow$ Pericycle $\rightarrow$ Root hair $\rightarrow$ Cortex

D. Root hair $\rightarrow$ Cortex $\rightarrow$ Pericycle $\rightarrow$ Endodermis $\rightarrow$ Xylem

Answer: A

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64. Read the given statements.

(i) Mg^{2+} is an activator for ribulose bisphosphate carboxylase-oxygenase.

(ii) Micronutrients are required in large quantities.

(iii) Zn^{2+} is an activator of alcohol dehydrogenase

(iv) Phosphorous is a central metal ion of the chlorophyll molecule.

Identify the true and false statements.

A. (i) - True (ii) - False (iii) - False (iv) -True

B. (i) - True (ii) - True (iii) - False (iv) -False

C. (i) - True (ii) - False (iii) - True (iv) -False

D. (i) - True (ii) - False (iii) - True (iv) -True

Answer: C

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65. The reaction in photosynthesis where ATP is produced using sunlight occurs in the:

A. Stroma

B. Thylakoid

C. Mitochondrial matrix

D. Cytoplasm

Answer: B

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66. The first stable compound of the Calvin cycle is

A. 3 C compound called 1,3-Biphosphoglycerate

B. 3 C compound called 3-Phosphoglycerate

C. 3 C compound called 3-Phosphoglyceraldeyde

D. 3 C compound called pyruvate

Answer: B

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67. Fill in the blanks A, B, C, and D with the correct choice of words.

In the glycolysis process, ATP is required in two steps. Firstly, in the conversion of

_____A_____ to _____B_____ and secondly in the conversion of _____C_____ to _____D_____.

A. A-Glucose, B-Glucose-1,6-biphosphate, C-Fructose, D- Fructose-6-phosphate

B. A-Glucose, B-Glucose-6-biphosphate, C-Fructose, D- Fructose-6-phosphate

C. A-Glucose, B-Glucose-6-phosphate, C-Fructose-6-phosphate, D- Fructose-1, 6-

biphosphate

D. A-Glucose, B-Glucose-6-biphosphate, C-Fructose-6 phosphate, D- Fructose-1, 6-biphosphate

Answer: C

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68. Cytochrome c is a small protein attached to the

A. outer surface of the outer mitochondrial membrane and acts as a mobile carrier for transfer of electrons between complex II and III

B. inner surface of the outer mitochondrial membrane and acts as a mobile carrier for transfer of electrons between complex III and IV

C. outer surface of the inner mitochondrial membrane and acts as a mobile carrier

for transfer of electrons between complex III and IV

D. inner surface of the inner mitochondrial membrane and acts as a mobile carriar for transfer of electrons between complex III and IV

Answer: C

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69. Find the odd one out from the options showing certain auxins.

A. Indole acetic acid

B. 2,4-D

C. Indole butyric acid

D. Naphthalene acetic acid

Answer: B

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70. If an agronomist is trying to induce flowering in a short- day plant and unknowingly it gets exposed to light for some amount of time. What will be the consequence of this plant ?

A. It will undergo etiolation.

B. It will resume its cycle and induce flower.

C. It will not flower.

D. It will show extensive flowering.

Answer: C

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71. Tendons

A. Connect muscle to bone and are made up of dense regular connective tissue

B. Connect bone to bone and are made up of dense regular connective tissue

C. Connect muscle to bone and are made up of dense irregular connective tissue

D. Connect bone to bone and are made up of dense irregular connective tissue

Answer: A

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72. Which of the following statements is correct about cockroach ?

A. In females, the 6^{th} sternum is boat-shaped and together with the 7^{th} and

8^{th} sterna form a brood or genital pouch

B. In males, the genital pouch is bounded dorsally by 9^{th} and 10^{th} sterna and ventrally by the 9^{th} tergum

C. Females bear a pair of short, threadlike anal styles which are absent in males

D. The 10^{th} segment has a pair of filamentous structures called anal cerci

Answer: D

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73. Which of the following points were not explained by Schleiden and Schwann when they formulated their original cell theory ?

A. All plants are composed of different kinds of cells which form the tissues of the plant

B. Animal cells had a thin outer layer which is today known as the 'plasma membrane'

C. Cells divide and new cells are formed from pre-existing cells

D. The presence of cell wall is a unique character of the plant cells

Answer: C

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74. Which one of the following fits the below description ?

It is a single-celled organism that is a greenish

colour and has a cell wall around its cell membrane. It has small infoldings of the cell membrane. It contains genetic material in the cytoplasm which is devoid of any envelope. It has ribosomes for protein synthesis.

A. Type of an algae

B. Type of bacteria

C. Type of fungi

D. Type of virus

Answer: B

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75. Find the odd one out from the following:

A. Amyloplast

B. Apoplast

C. Aleuroplast

D. Elaioplast

Answer: B

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76. There are 20 different types of amino acids that help in the formation of proteins. They differ from each other in the structure because of their

A. Carboxyl group

B. Amine group

C. Functional group as R

D. Hydrogen's orientation

Answer: C

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77. Read the following statements below.

I. All the carbon compounds that we get from living tissues can be called ‘biomolecules.

II. The ash formed after burning a tissue contains inorganic and organic substances. .

III. Beta amino acids are used by the cells to form proteins. .

Identify the true and false statements.

A. I-True, II-True, III- True

B. I-True, II-False, III- False

C. I-False, II-False, III- False

D. I-False, II-True, III- False

Answer: B

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78. In terms of percentage of the total cellular mass, the correct arrangement of biomolecules in the descending order is

A. Carbohydrates gt Lipids gt Nucleic Acids

B. Nucleic Acids gt Carbohydrates gt Lipids

C. Nucleic acids gt Lipids gt Carbohydrates

D. Carbohydrates gt Nucleic acid gt Lipids

Answer: B

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79. How is the DNA of the cell affected during S-phase of the cell cycle ?

A. DNA amount per cell is doubled

B. DNA amount per cell is halved

C. DNA amount per cell is tripled

D. DNA amount per cell remains the same

Answer: A

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80. In plants, the process of gamete formation involves

A. mitosis

B. meiosis

C. both mitosis and meiosis

D. no cell division

Answer: C

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81. Under which of the following condition, the oxyhaemoglobin dissociation curve shifts to left ?

A. High temperature

B. High pCO_2

C. Increase in pH

D. Decrease in pH

Answer: C

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82. Select the statement that is correct related to movement of diaphragm and intercostal

muscles for the process of effortless exhalation.

A. Diaphragm relax and external intercostal muscles relax

B. Diaphragm relax and external intercostal muscles contracts.

C. Diaphragm contracts and external intercostal muscles show no movement

D. Diaphragm contracts and external intercostal muscles relax

Answer: A

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83. Which of these statements of comparison regarding DNA and RNA holds true ?

A. DNA chemically is less reactive and structurally less stable when compared to RNA.

B. DNA chemically is more reactive and structurally less stable when compared to RNA.

C. DNA chemically is less reactive and structurally more stable when compared to RNA.

D. DNA chemically is more reactive and structurally more stable when compared to RNA.

Answer: C

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84. Which statement/s is/are incorrect regarding DNA ?

I. DNA has a double helix structure.

II. DNA can be double-stranded or single-stranded in animals

III. The two chains have parallel polarity.

IV. The pitch of the helix is 3.4 nm.

A. I, II, III, IV

B. II, III, IV

C. II, IV

D. II, III

Answer: D

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85. The given nucleotide sequence on mRNA is as shown below :

5' AUGUCAUGGGAGUGAGUUGGGCUAAAAUAG 3'

(A) How many amino acids will be inserted in a polypeptide chain under normal conditions?

(B) How many amino acids will be inserted in a polypeptide chain in a mutated situation by the deletion of 9th nucleotide in the cistron part of DNA ?

A. (A) 4, (B) 9

B. (A) 4, (B) 7

C. (A) 6, (B) 8

D. (A) 5, (B) 7

Answer: B

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86. Which of the following restriction endonucleases cannot be used while using pBR322 as a cloning vector ?

A. Pvull

B. BamHI

C. Sall

D. Pstl

Answer: A

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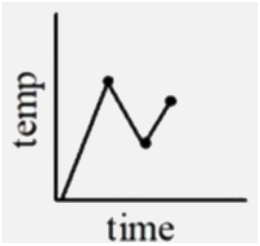
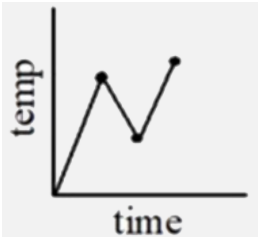
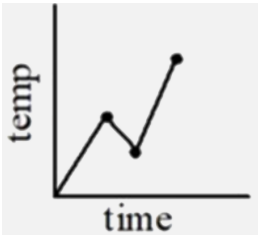
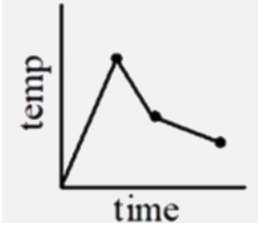
87. Which of the following graphs best depicts the changes in one cycle of PCR ?

A. 

B. 

C. 

D. 

Answer: A

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88. The number of nucleotides present in the restriction sequence of the first restriction endonuclease is

A. 6

B. 8

C. 12

D. 16

Answer: C

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89. Probe used in molecular diagnosis of diseases can be

A. a single stranded or double stranded DNA molecule tagged with a radioactive molecule

B. a single stranded or double stranded RNA molecule tagged with a radioactive molecule

C. a single stranded DNA or RNA molecule tagged with a radioactive molecule

D. a double stranded DNA or RNA molecule tagged with a radioactive molecule

Answer: C

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90. Match the columns correctly.

	Column I		Column II
A	*Agrobacterium tumefaciens*	I	The root of the tobacco plant
B	*Bacillus thuringiensis*	II	ADA
C	*Meloidegyne incognitia*	III	cry gene
D	Gene therapy	IV	Ti plasmid

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

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

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

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

Answer: C

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