BIOLOGY

BOOKS - A2Z BIOLOGY (HINGLISH)

MOCK TEST 3

Exercise

1. When population reaches carrying capacity :

A. Mortality Rate = Birth Rate

B. Mortality Rate gt Birth Rate

C. Mortality Rate lt Birth Rate

D. None of the above

Answer: A

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2. The formula for exponential population growth is

A. $dN/dt = rN$

B. $dt/dN = rN$

C. $dN/rN = dt$

D. $rN/dN = dt$

Answer: A

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3. Match the Column I with Column II and select the correct option.

(a)	Ameoboid movement	(i)	Limbs
(b)	Ciliary movement	(ii)	Macrophages
(c)	Flagellar movement	(iii)	Trachea
(d)	Muscular movement	(iv)	Spermatozoa

A. a—ii, b—iii, c—iv, d—i

B. a—i, b—ii, c—iii, d—iv

C. a—iv, b—ii, c—i, d—iii

D. a—iii, b—ii, c—i, d—iv

Answer: A

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4. A parasite that lives within a plant tissue is called as

A. Epiphyte

B. Endophyte

C. Ectophyte

D. None of the above

Answer: B

5. Amensalism is an association between two species where

A. One species is harmed and other is benefitted

B. One species is harmed and other is unaffected

C. One species is benefitted and other is unaffected

D. Both the species are harmed

Answer: B

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6. A logistic growth curve depicting a population that is limited by a definite carrying capacity is shaped like the letter :

A. J

B. F

C. M

D. S

Answer: D

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7. The age of pyramid with broad base indicates :

A. High percentage of young individuals

B. Low percentage of young individuals

C. High percentage of old individuals

D. Low percentage of old individuals

Answer: A

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8. ...a... are the vectors suitable for cloning ...b... while ...c... can alone only ...d...

A. a—cosmid, b—long DNA fragment, c—plasmid, d—short DNA fragment

B. a—plasmid, b.—long DNA fragment, c—cosmid, d—short DNA fragment

C. a—cosmid, b—DNA of any length, c—plasmid, d—short DNA fragment

D. a—plasmid, b—DNA of any length, c—cosmid, d—long DNA fragment

Answer: A

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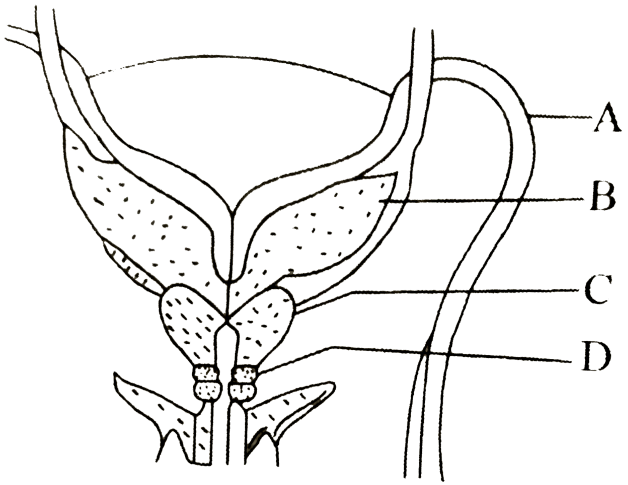
9. Select the correct set of names set of names for the parts A, B, C, D



A. A—Ureter, B—Seminal vescile, C—Prostate, D— Bulbourethral gland

B. A—Ureter, B—Prostate, C—Seminal vesical, D— Bulbourethral gland

C. A—Vas deferens, B—Seminal vesicle, C—Prostate, D—Bulbourethral gland V

D. A—Vas deferens, B—Seminal vesicle, C—Bulbourethral gland, D—-Prostate V

Answer: C

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10. Which is a population?

A. Spider and trappcd flies in its web

B. All plants in a forest

C. Earth worm that lives in grassland along with arthropods

D. All the Oak trees in a forest

Answer: D

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11. Match the amino acids in Column I with their chemical nature in Column II and choose the correct option given below.

Column I	Column II
(a) Glutamate	(i) Aromatic
(b) Lysine	(ii) Neutral
(c) Valine	(iii) Acidic
(d) Tyrosine	(iv) Basic

A. a—iii, b—iv, c—ii, d—i

B. a—ii, b—i, c—iv, d—iii

C. a—iv, b—iii, c—i, d—ii

D. a—i, b—ii, c—iii, d—iv

Answer: A

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12. Acid rain is due to

A. Sound pollution

B. Soil pollution

C. Air pollution

D. Water pollution

Answer: C

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13. Pollutant that reduces O_2-carrying capacity of blood is

A. SO_2

B. CO

C. CO_2

D. None of above

Answer: B

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14. Development of soil from parental rock is termed as:

A. Pedogenesis

B. Pedology

C. Edaphic factors

D. Edaphic Climax

Answer: A

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15. The least porous soil among the following is a:

A. Clay soil

B. Sandy soil

C. Loam soil

D. Gravelly soil

Answer: A

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16. A fertile agricultural soil appears deep coloured at the surface as compared to soil one metre down. The reason for colour of top soil is

A. More moisture

B. Rich in organic matter

C. Rich in iron, calcium and magnesium

D. Recent formation

Answer: B

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17. Methyl isocyanate of Bhopal gas tragedy was

A. Carbamate

B. Organophosphate

C. Organochlorine

D. None of the above

Answer: A

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18. A couple having difficulty in conceiving visit an infertility clinic. They do not want any technique/procedure where fertilization is made to occur outside the woman's body. Which procedure should they choose?

A. ZIFT

B. GIFT

C. JUT

D. IVF

Answer: B

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19. Environmental pollution affects

A. Biotic components

B. Plants only

C. Man only

D. Biotic and abiotic components of environment

Answer: D

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20. POPULATION GROWTH

A. Emigration

B. Mortality

C. Natality

D. All the above

Answer: D

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21. How many statements are correct?

(a) Hind II always cut DNA molecules at particular point by recognizing a specific sequence of 6 bases.

(b)After the restriction endonuclease action,

single stranded portions which are overhanging stretches called sticky ends because they form nucleotide bonds with their complementary cut counter part.

(c)The separated bands of DNA are cut out from the agarosegel and extracted from gel piece. This step is known as spooling.

(d)Taq polymerase is used between annealing and extension of r-DNA technology.

A. 1

B. 2

C. 0

D. 3

Answer: C

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22. Match the columns I and II, and choose the correct combination from the options given.

Column I	Column II
p. *Water act*	i. 1981
q. *Environment protection act*	ii. 1986
r. *Air prevention and control of pollution act*	iii. 1987
s. *Amendment of Air act to include noise*	iv. 1974

A. p—iv, q—iii, r—ii, s—i

B. p—iv, q—ii, r—i, s—iii

C. p—iii, q—ii, r—iv, s—i

D. p-iii, q—ii, r—i, s—iv

Answer: B

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23. Silencing of mRNA/RNA interference has been used in development of plants resistant to

A. Insects

B. Viruses

C. Fungi

D. Nematodes

Answer: D

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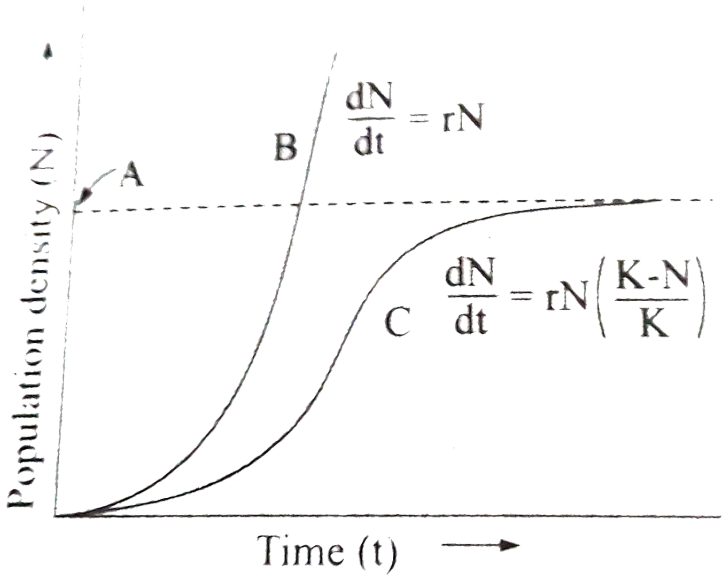
24. which is correctly labelled?



A. B—logistic curve

B. C—carrying capacity

C. C—exponential curve

D. A—carrying capacity

Answer: D

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25. An American company got patent rights on Basmati rice in the year in which

A. First clinical gene therapy was done

B. First recombinant DNA were constructed

C. Human protein-enriched milk (2.4 gram per litre) containing human α-

lactalbumin is produced

D. None

Answer: C

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26. Formation of tropical forests needs mean annual temperature and mean annual precipitation as:

A. $18 - 25^{\circ} C$ and 150—400 cm

B. $5—15^{\circ}C$ and 50—100 cm

C. $30-50^{\circ}$C and 100—150 cm

D. $5—15^{\circ}$C and 100—200 cm

Answer: A

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27. Salt concentration (salinity) of the sea measured in parts per thousand is:

A. 10—15

B. gt 100

C. lt5

D. 30—35

Answer: D

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28. Number of plant species estimated to be present in Inida is

A. 40000

B. 45000

C. 58000

D. 90000

Answer: B

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29. Which of the following control the function Sertoli cells?

A. Causingthe blood testis barrier

B. Directed movement of developing stages of spermatozoa

C. Capacitation

D. Secretion of inhibin

Answer: C

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30. The plant on which Hugo de vries based his evolution theory is

A. Antirrhinum majus

B. Lathyrus odoratus

C. Oenothera lamarckiana / Evening Primrose

D. Pisum sativum

Answer: C

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31. Select the incorrect statement.

A. Lemur and spotted cuscus shows convergent evolut ion.

B. Icthyosaurs evolved around 200 mya.

C. Homo sapiens arose in east and central Asia.

D. First human like being hominid is Homo habilis.

Answer: C

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32. Among the ecosystem mentioned below, where can one find maximum biodiversity?

A. Mangroves

B. Desert

C. Coral reefs

D. Alpine meadows

Answer: C

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33. A man having the genotype EEFfGgHH can produce P number of genetically different sperms, and a woman of genotype liLLMnNn can generate Q number of genetically different eggs. Determine the values P and Q

A. P—4, Q—4

B. P-4, Q—8

C. P-8,Q-4

D. P-8,Q-8

Answer: B

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34. Maximum amount of carbon dioxide is transported in the blood as:

A. Bound to hemoglobin

B. As bicarbonate

C. As bis-carbonate

D. Dissolved carbon dioxide

Answer: B

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35. Hydrogen bonds between cytosine and guanine are

A. 1

B. 1

C. 3

D. 4

Answer: C

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36. Match the columns I and II, and choose the correct combination from the options given.

	Column I		Column II
p.	Minimata disease	i.	F
q.	Itai itai	ii.	As
r.	Black foot disease	iii.	Hg
s.	Mottling of teeth	iv.	Cd

A. p—iii, q—iv, r—ii, s-i

B. p—iv, q—iii, r—ii, s—i

C. p—iii, q—iv, r—i, s—ii

D. p—iv, q—iii, r—i, s—ii

Answer: A

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37. FOAM, are concerned with :

A. Organic farming

B. Integrated waste water treatment

C. Electronic waste

D. Remedy for plastic waste

Answer: B

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38. Humus is good for plant growth because

A. It improves physical condition of soil

B. It makes the soil porous

C. It increases water holding and aeration of soil

D. All the above

Answer: D

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39. Watson and Crick are known for their discovvery that DNA

A. Single stranded

B. Double stranded

C. Having deoxyribose only

D. Template for rRNA synthesis

Answer: B

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40. Which of the following statements regarding 'syphilis' is incorrect?

A. Syphilis bacteria cannot cross placenta

B. Syphilis is curable by antibiotic therapy

C. Diagnosis of syphilis can be made by blood test or by microscopic examination of fluids from lesions

D. Syphilis is caused by Treponema palladium

Answer: D

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41. Nucleic acids are made of

A. Nucleotides

B. Nucleosides

C. Amino acids

D. Proteins.

Answer: A

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42. Mendel conducted hybirdisation experiments on

A. Pigeon Pea

B. Garden Pea

C. Wild Pea

D. Sweet Pea

Answer: B

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43. Mendel was born in

A. 14th century

B. 18th century

C. 19th century

D. 20th century

Answer: C

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44. Source of energy which does not evolve CO_2 is

A. Coal

B. Oil

C. Organic compounds

D. Nuclear energy

Answer: D

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45. Gas being produced by paddy fields and involved in global warming is

A. Chlorine

B. Methane

C. CO_2

D. H_2S

Answer: B

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46. In the polluted water bodies growth of the aerobic microbes helps in water treatment by

A. Reducing BOD and increasing dissolved oxygen

B. Increasing BOD and chemical oxygen demand

C. Reducing the dissolved nutrients

D. Increasing BOD and disssolved oxygen.

Answer: A

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47. Which gas contributes most to green house effect ?

A. CFC

B. Freon

C. CO_2

D. CH_4

Answer: C

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48. Amount of water a soil can hold against pull of gravity is called

A. Field capacity

B. Gravitational water

C. Storage water

D. Hygroscopic water

Answer: A

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49. According to mass emission standards in India, 2, 3 and 4 wheelers types of vehicles (through out the country) falls under the norm:

A. Bharat stage-I

B. Bharat stage-II

C. Bharat stage-III

D. Bharat stage-IV

Answer: C

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50. . ...P... protocol is concerned with ozone depletion while ...Q... protocol is concerned with green house effect and Montreal protocol is effective from ...R... Here P, Q and R are

A. P—Kyoto, Q—Montreal, R—1987

B. P—Montreal, Q—Kyoto, R—1989

C. P—Kyoto, Q—Montreal, R—1989

D. P—Montreal, Q—Kyoto, R—1987

Answer: B

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51. Ecology is connected with the study of

A. Environmental factors

B. Plant adaptations

C. Effect of plants on environment

D. All the above

Answer: D

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52. Radial symmetry occurs in

A. Porifera and Coelenterata

B. Mollusca and Ctenophora

C. Platyhelminthes and Chordata

D. Echinodermata and Coelenterata

Answer: D

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53. What is true for Watson and Crick's model of DNA ? It is duplexed with :

A. 10 base pairs and 34Å distance for every turn

B. 10 base pairs and 3.4Å distance for each turn of spiral

C. 20 base pairs and 34Å for each turn

D. None of the above

Answer: A

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54. Biomagnification is highest in

A. Primary consumers

B. Secondary consumers

C. Producers

D. Decomposers

Answer: B

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55. Cadmium pollution of water body produces a disease of humans called

A. Anaemia

B. Itai—itai

C. Minimata

D. Pneumoconiosis

Answer: B

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56. Which one of the following synovial joints is a characteristic joint between atlas and axis?

A. Hinge joint

B. Pivot joint

C. Gliding joint

D. Ball and socket joint

Answer: B

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57. An area of soil thoroughly wetted and allowed to drain till percolation stops will have a water content called

A. Capillary water

B. Storage water

C. Field capacity

D. Gravitational water

Answer: C

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58. Pyrimidine base present in RNA but not in DNA :

A. Uracil

B. Adenine

C. Cytosme

D. Guanine

Answer: A

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59. Nitrogen oxides produced from the emission of automibiles and power plants are the source of fine air borne particles which lead to:

A. Dry acid deposition

B. Photochemical smog

C. Wet acid deposition

D. Industrial smog

Answer: B

60. Which of the following is not exhibited by cancer cells?

A. Escape from immune system

B. Metastasis

C. Uncontrolled cell division

D. Contact inhibition

Answer: D

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61. A lake with an inflow of domestic sewage rich in organic waste may result in

A. Drying up due to algal bloom

B. Increased fish production due to higher nutrient availability

C. Death of fish due to oxygen depiction

D. Increased food web organisation

Answer: C

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62. Common indicator organism of water pollution is

A. Escherichia coil

B. Vibrio cholerae

C. Salmonella typhi

D. Entamoeba hisiolytica

Answer: A

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63. Minimata disease first occurred in

A. Japan

B. Russia

C. China

D. Korea

Answer: A

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64. In cockroach, wings arises from

A. One pair each from prothorax and metathorax

B. One pair each from mesothorax and metathorax

C. One pair from joint of prothorax and mesothorax, and one pair from joint of mesothorax and metathorax

D. One pair each from prothorax and mesothorax

Answer: B

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65. Black-foot disease is caused by ground water contaminated with:

A. Nitrate

B. Fluoride

C. Arsenic

D. Sulphur

Answer: C

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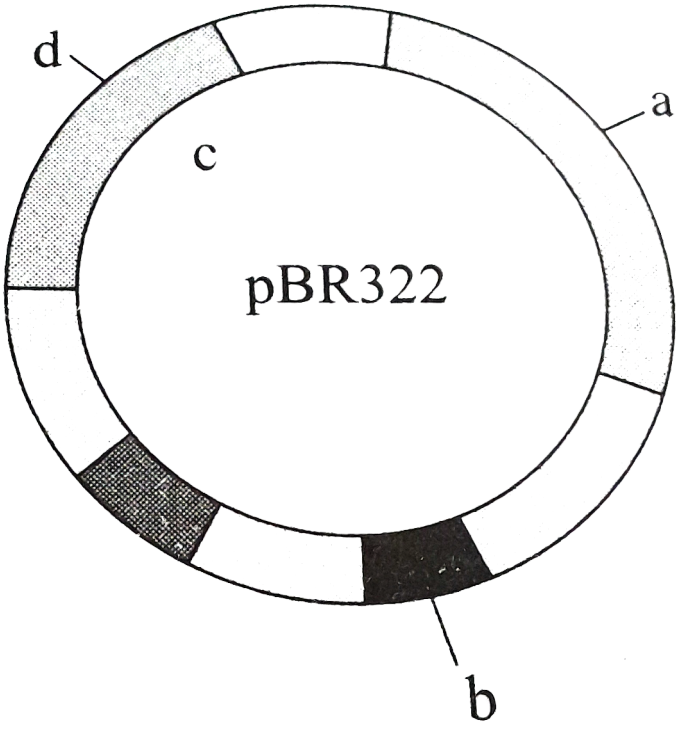
66. The given figure is the diagrammatic representation of E coil cloning vector pBR

322. Identify a, b, c and d.



A. a—Barn HI, b—Puv. I, c-amp^R, d—Puv—II

B. a—Bam HI, b—Pvu. II, c—amp^R , d—Pvu — I

C. a—Sal I, b—Pst. I, c-tet^R, d—Puv — I

D. a—Sal I, b—Puv. I, c—tet^R, d—Puv-I

Answer: B

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67. Criteria for rain water to be called acid rain is for pH:

A. 7

B. 6.5

C. 6

D. 5.6

Answer: D

68. In angiosperms the number of meiotic divisions required to produce 100 macrospores is

A. 125

B. 100

C. 50

D. 25

Answer: D

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69. Three tropical forests I, II and III are respectively, circular, triangular and rectangular in shape. Assume that all of them have the same area, and all three surrounded by grasslands on all sides. Which forests(s)

would be expected to have the smallest ecotone?

A. Forest II (triangular shape)

B. Forest Ill (rectangular shape)

C. Forest II and III

D. Forest I (circular shape)

Answer: A

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70. Triploid tissue is

A. Endosperm in Maize I Wheat/Lily

B. Leaf in Onion/, Bryophyllum / Pinus

C. Root in Onion / Radish/Carrot

D. Fern prothallus

Answer: A

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71. 8-nucleate embryo sac is

A. Monosporic

B. Bisporic

C. Tetrasporic

D. All the above.

Answer: D

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72. Double fertilization results in the production of

A. Haploid nucleus

B. Diploid nucleus

C. Triploid nucleus

D. Tetraploid nucleus

Answer: C

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73. Pollen grains are shed at

A. One-celled stage

B. 2—3 celled stage

C. 3-celled stage

D. 4-celled stage

Answer: B

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74. Assertion (A) : Natural selection is the outcome of difference in survival and reproduction among individuals that show variation in one or more traits.

Reason (R) : Adaptive forms of a given trait tent to become more common, less adaptive ones become less common or disappear.

A. (b) is correct but (a) is false

B. Both (a) and (b) are correct

C. Both (a) and (b) are false.

D. (a) is correct but (b) is false.

Answer: B

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75. NEERI is at

A. New Delhi

B. Nagpur

C. Kolkata

D. Chennai

Answer: B

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76. Maximum permissible limit of noise as per "Noise Pollution Rules 2000 of India" is:

A. 75 dB

B. 65 dB

C. 55dB

D. 45dB

Answer: A

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77. Biodiversity Act of India was passed by the Parliament in the year

A. 1992

B. 1996

C. 2000

D. 2002

Answer: D

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78. Which is an endemic plant?

A. Nepenthes khasiana

B. Riccia discolor

C. Vernonia cinerea

D. Cynodon daclylon

Answer: A

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79. Lining of trachea is made up of

A. Pseudostratified ciliated columnar epithelium

B. Stratified ciliated columnar epithelium

C. Pseudotratjfied ciliated cuboidal epithelium

D. Stratified ciliated glandular epithelium

Answer: A

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80. Which of the following statements is correct?

A. Partheniuim is an endemic species of our country.

B. African catfish is not a threat to indigenous catfishes.

C. Steller's sea cow is an extinct animal.

D. Lantana is popularly known as carrot grass.

Answer: C

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81. Which of the following is vitamin-A enriched?

A. Bitter gourd and carrots

B. Bathua and mustard

C. Tomato and carrots

D. Spinach and pumpkins

Answer: D

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82. Match the columns I and II, and choose the correct combination from the options given.

	Column I		Column II
i.	Streptomycin	a.	*S. griseus*
ii.	Neomycin	b.	*S. fradiae*
iii.	Chloromycetin	c.	*S. venezualae*
iv.	Terramycin	d.	*S. erythreus*
v.	Erythromycin	e.	*S. ramosus*

A. i—d, ii—b, iii—c ,iv—e, v—a

B. i—e, ii—c, Ili—d, iv—b, v—a

C. i—a, ii—b, iii—c, iv—e, v—d

D. i—c, ii—d, iii—a, iv—e, v—b

Answer: C

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83. Excess atmosperic CO_2 increases greenhouse effect as it:

A. Is opaque to infra-red rays

B. Is not opaque to infra-red rays

C. Precipitates dust in the atmosphere

D. Reduces atmospheric pressure

Answer: A

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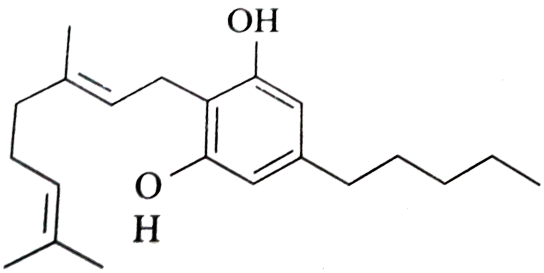
84. The given skeletal structure is of a drug. Identify the drug and choose the correct statement related with it.



A. It is obtained from unripe fruit of Cannabis saliva.

B. It causes hallucination.

C. Its receptors are present principally in GIT.

D. it is obtained from leaves of Papaver Somnferum.

Answer: B

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85. Physical removal of large and small particles from the sewage through filtration and sedimentation is done under-----

A. Primary treatment

B. Secondary treatment

C. Tertiary treatment

D. Quaternary treatment

Answer: A

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86. Assertion: Presence of large amounts of nutrients in water body causes excessive growth of planktonic algae.

Reason : It is due to biomagnifications

A. If both assertion and reason are true and the reason is the correct explanation of the assertion.

B. If both assertion and reason are flue but reason is not the correct explanation of the assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false

Answer: C

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87. Assertion: Eutrophication shows increase in productivity in water.

Reason: With increasing eutrophication, the diversity of the phytoplankton increases

A. If both assertion and reason are true and the reason is the correct explanation of the assertion.

B. If both assertion and reason are flue but reason is not the correct explanation of

the assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false

Answer: B

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88. Assertion :- Darwin's finches are calssical example of natural selection.

Reason :- Darwin explained that beak sizes and

shape in finches varied according to food habit fo different finches.

A. If both assertion and reason are true and the reason is the correct explanation of the assertion.

B. If both assertion and reason are flue but reason is not the correct explanation of the assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false

Answer: A

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89. Assertion : GM foods are facing widerspread resistance by the people

Reason : GM foods hve mutated genes which cause infections and alleriges

A. If both assertion and reason are true and the reason is the correct explanation of the assertion.

B. If both assertion and reason are flue but reason is not the correct explanation of the assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false

Answer: A

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90. Assertion : HIV infected person are prone to opportunistic diseases.

Reason : Immune system weakens during HIV infection.

A. If both assertion and reason are true and the reason is the correct explanation of the assertion.

B. If both assertion and reason are flue but reason is not the correct explanation of the assertion.

C. If assertion is true but reason is false.

D. If both assertion and reason are false

Answer: A