



BIOLOGY

BOOKS - SARAS PUBLICATION

MODEL QUESTION PAPER-1

Exercise

1. Bryophyllum and Dioscorea are example for

- A. Foliar bud, apical bud
- B. Foliar bud, cauline bud
- C. Cauline bud, apical bud
- D. Cauline bud, foliar bud

Answer:



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2. Sequences of which of the following is used to know the phylogeny

- A. mRNA
- B. rRNA
- C. tRNA
- D. hnRNA

Answer:

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3. DPD in normal cell is

- A. $DPD = OP - TP$
- B. $DPD = TP$
- C. $DPD = OP - SP$

D. $DPD=OP$

Answer:



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4. Identify correct match .

1. Die back disease of citrus -(i) Mo

2. Whip tail disease -(ii) Zn

3. Brown heart of turnip - (iii) Cu

4. Little leaf - (iv) B

A. 1 (iii) 2 (ii) 3 (iv) 4 (i)

B. 1 (iii) 2 (i) 3 (iv) 4 (ii)

C. 1 (i) 2 (iii) 3 (ii) 4 (iv)

D. 1 (iii) 2 (iv) 3 (ii) 4 (i)

Answer:



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5. The net gain of energy in glycolysis is

- A. 2 ATP and 2 $NADPH_2$
- B. 4 ATP and 4 $NADPH_2$
- C. 3 ATP and 2 $NADPH_2$
- D. 9 ATP and 6 $NADPH_2$

Answer:



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6. Newly formed cell increases in size by deposition of cell wall material in

- A. Log phase
- B. Lag phase
- C. Decelerating phase

D. Maturation phase

Answer:

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7. How did Copeland classify the living world?

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8. Give the technical terms for the following: -

(a) A sterile stamen

(b) Stamens are united in one bunch

(c) Stamens are attached to the petals

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9. What are the factors affecting the rate of enzyme reaction?



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10. What are fusiform initials?



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11. A tree is believed to be releasing oxygen during night time. Do you believe the truthfulness of this statement?



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12. What is plectostele? Give example.



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13. Define ptyxis.



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14. Draw the ultra structure of plant cell.



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15. Explain Bast fibres?



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16. Write the role of nitrogenase enzyme in nitrogen fixation?



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17. Assertion (A) : Oxidative phosphorylation takes place during the electron transport chain in mitochondria.

Reason (R) : Succinyl CoA is phosphorylated into succinic acid by substrate phosphorylation.

A. A and R are correct. R is correct explanation of A

B. A and R are correct but R is not the correct explanation of A

C. A is correct but R is wrong

D. A and R are wrong.

Answer:

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18. Name two anti-auxins.

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19. Find out the floral formula for a bisexual flower with bract, regular, pentamerous, distinct calyx and corolla, superior ovary without bracteole.

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20. Where will you place the plants which contain two cotyledons with cup shaped thalamus?

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21. G_0 phase is called a quiescent stage. Why?

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22. Define lenticel.

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23. Why plants transport sugars as sucrose and not as starch or glucose or fructose?

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24. Two groups (A & B) of bean plants 450nm & Group B to light of wave of similar size and same leaf area were length of 500-550nm. Compare the placed in identical conditions. Group A photosynthetic rate of the 2 groups given as exposed to light of wavelength 400 reasons.

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25. Give a brief account on Programmed Cell Death (PCD).

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26. Write any three significance of mitosis .

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27. Plant A in a nutrient medium shows whiptail disease. Plant B in a nutrient medium shows a Little leaf disease. Identify mineral deficiency of

plant A and B ?



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28. List out the significance of RQ.



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29. Bryophyllum and Dioscorea are example for

- A. Foliar bud, apical bud
- B. Foliar bud, cauline bud
- C. Cauline bud, apical bud
- D. Cauline bud, foliar bud

Answer:



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30. Arrange the following in correct order

A. Apple - i) drupe

B. Pea -ii) hesperidium

C. Orange -iii) Legume

D. Mango - iv) Pome

A. A-i, B-iii, C-iv, D-ii

B. A-iv, B-ii, C-i, D-iii

C. A-iv, B-iii, C-ii, D-i

D. A-ii, B-iii, C-i, D-iv

Answer:



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31. In pachytene stage of meiosis the chromosomes appear

A. Single stranded

B. Double stranded

C. Three stranded

D. Four stranded

Answer:



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32. Grafting is successful in dicots but not in monocots because the dicots have

A. Vascular bundles arranged in a ring

B. Cambium for secondary growth

C. Vessels with elements arranged end to end

D. Cork cambium

Answer:



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33. Consider the following statements. Organization of vascular cambium

(i) The cells of vascular cambium do not fit into the usual description (ii) vascular cambium possesses Cells with large central vacuole surrounded by a thin, layers of dense cytoplasm (iii) The vascular cambium is the presence of three kinds of initials.

- A. (i) is correct but (ii) and (iii) are not correct
- B. (i) and (ii) are correct but (iii) is not correct
- C. (i) and (ii) are not correct but (iii) is correct
- D. (i) is not correct but (ii) and (iii) are correct

Answer:



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34. Identify true statement regarding light reaction of photosynthesis

A. Splitting of water molecule is associate with PS I.

B. PS I and PS II involved in the formation of $NADPH + H^+$.

C. The reaction center of PS I is Chlorophyll a with absorption peak at 680 nm.

D. The reaction center of PS II is Chlorophyll a with absorption peak at 700 nm

Answer:



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35. Assertion (A) : Oxidative phosphorylation takes place during the electron transport chain in mitochondria.

Reason (R) : Succinyl CoA is phosphorylated into succinic acid by substrate phosphorylation.

A. A and R are correct. R is correct explanation of A

B. A and R are correct but R is not the correct explanation of A

C. A is correct but R is wrong

D. A and R are wrong.

Answer:



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36. This is an anti auxin compound

A. 2, 4-D

B. TIBA

C. PAA

D. IBA

Answer:



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37. How root climbers differ from stem climbers?

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38. Describe superficial placentation

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39. Name the green manure plants of fabaceae.

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40. Draw a diagram to show position of different types of meristems.

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41. State the Munch Mass flow hypothesis.



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42. The nitrogen is present in the atmosphere in huge amount but plants fail to utilize it . Why ?



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43. Differentiate between vegetative morphology & reproductive morphology.



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44. State Rudolf Virchow's cell theory.



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45. Write about pachytene of prophase I.

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46. Explain sclereids with their types.

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47. What are the parameters which control water potential ?

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48. Name the common in nitro hydrogen acceptors.

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49. Briefly discuss on five kingdom classification. Add a note on merits and demerits.

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50. Write notes on phycobilins.

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51. Describe Went experiment Avena Curvature Test.

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52. Write the names of soft fibres.

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53. Differentiate between aggregate fruit with multiple fruit.

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54. Explain the structure and function of tRNA?



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55. Do mushroom cells have cell wall?



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56. A transverse section of the trunk of a tree shows concentric rings which are known as growth rings . How are these rings formed ? What are the significance of these rings ?



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57. Who proposed five kingdom classification? Mention the five kingdoms.

A. Cavalier- Smith

B. Carl Woese

C. R. H. Whittaker

D. Carolus Linnaeus

Answer:



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58. Non-shivering thermogenesis in neonates produces heat through.....

A. White fat

B. Brown fat

C. Yellow fat

D. Colourless fat

Answer:



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59. Which is the descending sequence of human digestive track?

A.

Mouth → *Oesophagus* → *Lar* ≥ *est* ∈ *e* → *Small* *est* ∈ *e* → *Re*

B.

Mouth → *Oesophagus* → *Rectum* → *Lar* ≥ *est* ∈ *e* → *Small* *est* ∈ *e*

C.

Mouth → *Oesophagus* → *small* *est* ∈ *e* → *lar* ≥ *est* ∈ *e* → *rec*

D. *Mouth* → *lar* ≥ *est* ∈ *e* → *small* *est* ∈ *e* → *rectum*

Answer:



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60. Formatin of blood corpuscles is known as

A. Rouleaux

B. Haemopoiesis

C. Haemolysis

D. Phagocytosis

Answer:



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61. The protein present in the thin filament is

A. Myosin

B. Actin

C. Pectin

D. Leucine

Answer:



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62. 1. Voltage gated channel (i) Chemically gated
2. Ligand-gated channels (ii) Mechanically gated channels
3. Leakage channels (iii) Negatively charged protein
4. Intracellular fluids (iv) Ionic channels

A. 1-a 2-b 3-c 4-d

B. 1-a 2-b 3-d 4-c

C. 1-d 2-c 3-b 4-a

D. 1-b 2-c 3-a 4-d

Answer:



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63. The maintenance of constant internal environment is referred as

A. Regulation

B. Homeostasis

C. Co-ordination

D. Hormonal control

Answer:



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64. Biological indicators of soil fertility

A. Vermicast

B. Earthworm

C. Vermicompost

D. Silkworm

Answer:



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65. Differentiate between probiotic and pathogenic bacteria.



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66. What are the layers of the body wall of an earthworm?

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67. Define respiration

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68. Name the three main hormones are involved in the regulation of the renal function?

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69. Why is the blind spot called so ?

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70. What is Rathke's pouch?

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71. List any five salient features of the family Felidae.

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72. The stored lipids are in the form of adipose tissue. Are they coloured?
why?

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73. Write short notes on oesophagus

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74. Write short notes on Neutrophils.



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75. How does rigor mortis happen?



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76. Pleasant smell of food urged Ravi to Rush into the kitchen. Name the parts of the brain involved in the identification of food and emotional responses to odour.



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77. Define vermiculture.



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78. What is meant by vermiwash?

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79. What are the basic needs for classification?

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80. Write short notes on nervous tissue

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81. Explain the mechanism of breathing.

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82. Explain skeletal muscle?



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83. Hormons are known as chemical messenger justify.



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84. Differentiate hyperglycemia from hypoglycemia



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85. What are the functions of neuroglia ?



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86. Write notes on Hind brain.



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87. Match the following columns and select the correct option.

Column - I		Column - II	
(p)	Pila	(i)	Devil fish
(q)	Dentalium	(ii)	Chiton
(r)	Chaetopleura	(iii)	Apple snail
(s)	Octopus	(iv)	Tusk shell

- A. p - (ii), q - (i), r - (iii), s - (iv)
- B. p - (iii), q - (iv), r - (ii), s - (i)
- C. p - (ii), q - (iv), r - (i), s - (iii)
- D. p - (i), q - (ii), r - (iii), s - (iv)

Answer:



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88. The tissue present in the lining of kidney tubules ducts and secretory portions of glands.

- A. Squamous epithelium

B. Glandular epithelium

C. Cuboidal epithelium

D. Columnar epithelium

Answer:



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89. Buccopharyngeal respiration in frog:

A. Is increased when nostrils are closed

B. Stops when there is pulmonary respiration

C. Is increased when it is catching fly

D. Stops when mouth is opened.

Answer:



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90. Where does our buccal cavity open?

- A. Oesophagus
- B. Salivary gland
- C. Pharynx
- D. Stomach

Answer:



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91. Which of the following substances in tobacco smoke damage the gas exchange system?

- A. Carbon monoxide and carcinogens
- B. Carbon monoxide and nicotine
- C. Carcinogens and tar
- D. Nicotine and tar

Answer:



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92. Match the term given under column 'A' with their functions given under column B and select the answer from the options given below.

Column I	Column II
A. Lymphatic system	(i) Carries oxygenated blood
B. Pulmonary vein	(ii) Immune response
C. Thrombocytes	(iii) To drain back the tissue fluid to the circulatory system
D. Lymphocytes	(iv) Coagulation of blood

A. A-ii, B-i, C-iii, D-iv

B. A-iii, B-i, C-iv, D-ii

C. A-iii, B-i, C-iii, D-iv

D. A-ii, B-i, C-iii, D-iv

Answer:



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93. Kidney stones are produced due to deposition of uric acid and

A. Silicates

B. Minerals

C. Calcium carbonate

D. Calcium oxalate

Answer:



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94. Assertion (A): Osteoporosis occurs due to deficiency of vitamin D and hormonal imbalance

Reason (R): Osteoporosis causes rickets in children and osteomalacia in adult females.

- A. (R) is correct but (A) is wrong.
- B. (A) is correct but (R) is wrong.
- C. (A) is correct but (R) explains (A)
- D. Both (A) and (R) are correct

Answer:

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95. What is PCR?

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96. Head of cockroach is called Hypognathous. Why ?

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97. What is Expiratory Capacity (EC)?

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98. Give the formula for net filtration pressure.

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99. Sam's optometrist tells him that his intraocular pressure is high. What is this condition called and which fluid does it involve ?

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100. What is meant by animal husbandary?



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101. What is sexual dimorphism?



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102. What is statocyst?



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103. Write short notes on intestinal caecae.



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104. Write short notes on emphysema



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105. What are the different types of permanent teeth?



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106. How are nephrons classified based on the length of Henle's loop?



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107. Write notes on fibrous joints.



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108. Can you state why some areas of the brain and spinal cord are gray and some are white?



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109. Name some molecular techniques used for taxonomical classification.

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110. Write notes on triploblastic animals.

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111. Draw a neat diagram of digestive system of frog.

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112. What are the functions of liver ?

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113. Write a short note on mechanism of hearing.



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114. Write short notes on lymphocytes.



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115. Give the economic importance of lac insect.



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116. Differentiate swarming in honey bee and lac insect.



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