

Biology

JIPMER

1. Chromosome walking is
 - (1) used in genetic mapping
 - (2) observed during mitosis
 - (3) to see position of Ribosomes on nuclear membrane
 - (4) to check the expression of mutant genes

2. Verticilaster inflorescence is found in
 - (1) Mustard
 - (2) *Ocimum*
 - (3) China rose
 - (4) Sunflower

3. Zooidogamy is found in
 - (1) Cedrus
 - (2) Pinus
 - (3) Cycas
 - (4) Both (2) and (3)

4. Which one is only found in plant?
 - (1) Ribosome
 - (2) Mitochondria

- (3) Glyoxysomes
 - (4) Lysosome
5. Vernalisation is
- (1) Low pH treatment
 - (2) Low temperature treatment
 - (3) High temperature treatment
 - (4) High pH treatment
6. During DNA replication, supercoiling is relaxed by
- (1) Primase
 - (2) Polymerase
 - (3) DNA Topoisomerase
 - (4) SSBPs
7. Which of the following is not true?
- (1) β -Galactosidase–Lac operon
 - (2) Photorespiration– C_3 plants
 - (3) Krebs cycle–mitochondrial matrix
 - (4) Southern Hybridization–related to identification of RNA sequence

8. An interaction in which one organism is benefitted and other is unaffected-
- (1) Predation
 - (2) Commensalism
 - (3) Mutualism
 - (4) Parasitism
9. Karyotype of Down syndrome has how many chromosomes?
- (1) 43
 - (2) 46
 - (3) 47
 - (4) 45
10. Genetic variation cannot be effectively brought about by
- (1) Transduction
 - (2) Mutation
 - (3) Transformation
 - (4) Amplification

11. A normal man and a normal woman both having one of their parent albino, if get married then what is the probability of their child of being albino?

- (1) 20%
- (2) 25%
- (3) 75%
- (4) 80%

12. Which is the correct sequence of modification and transport of secretory vesicles?

- (1) RER→cell membrane→ secretory vesicles→Golgi body
- (2) RER→secretory vesicles →Golgi body →cell membrane
- (3) RER→Golgi body→secretory vesicles→cell membrane
- (4) SER→Golgi body →cell membrane →secretory vesicles

13. Which of the following is not a stop codon?

- (1) UAA
- (2) UAC
- (3) UAG
- (4) UGA

14. Kranz anatomy is found in

- (1) C_3 plants
- (2) only in monocots
- (3) Both C_4 and C_3 plants
- (4) C_4 plants

15. To make chromosomal studies easier, chromosomes are classified into certain groups. So, the chromosome number 21, 22 and Y are listed in

- (1) A
- (2) D
- (3) E
- (4) G

16. What will be the DNA content and number of chromosomes in a cell of after S phase as compared to the gamete of the same organism?

- (1) Same DNA content but double chromosome number
- (2) Four times DNA content but double chromosome number
- (3) Same DNA content but half chromosome number
- (4) Half DNA content but double chromosome number

17. An interaction in which one organism is benefitted and other is unaffected

- (1) predation
- (2) commensalism
- (3) mutualism
- (4) parasitism

18. Carcinogen present in cigarette smoke is :

- (1) Benzopyrine
- (2) Nicotine
- (3) Carbon monoxide
- (4) All

19. Choose the incorrect about gemmules :

- (1) They resist dessication
- (2) They are internal buds
- (3) They are asexual structures which produce by binary fission
- (4) They can give rise to new organisms

20. Structure analogous to the placenta in mammals

- (1) Chorion
- (2) Amnion
- (3) yolk sac
- (4) Allantois

21. Bradykinin is a :

- (1) Antibody
- (2) Hormone
- (3) Enzyme
- (4) Receptor

22. Hardest substance in plant kingdom is

- (1) siple
- (2) corolla
- (3) sporopollenin
- (4) anther

23. Number of chromosomes present in spermatogonium is :

- (1) 46
- (2) 23

(3) 48

(4) 43

24. Gastrulation means :

(1) Conversion of blastula into morula

(2) Formation of 3 germ layers

(3) A phase in which organogenesis takes places

(4) A phase characterized by inner cell mass

25. Level of LH is maximum :

(1) Just before ovulation

(2) Just after ovulation

(3) At the time of ovulation

(4) During menstrual bleeding phase

26. Length of oesophagus is :

(1) 25 cm

(2) 55 cm

(3) 33 cm

(4) 45 cm

27. Which of the following is not a micronutrient

- (1) B
- (2) Zn
- (3) Mn
- (4) Mg

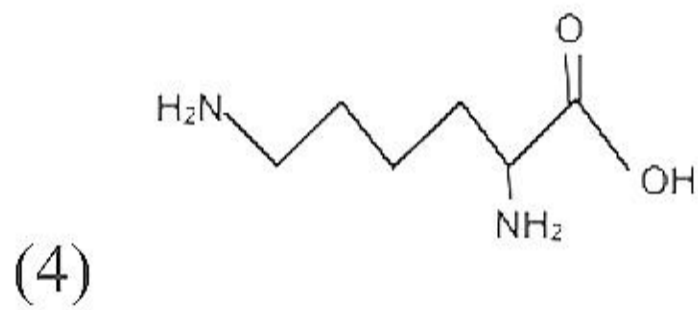
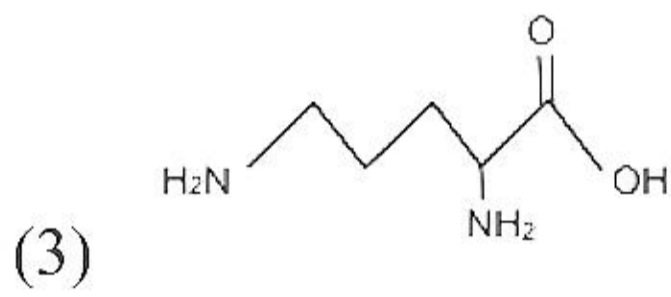
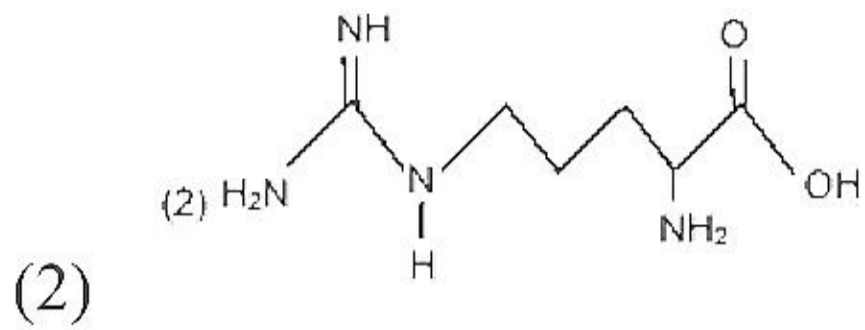
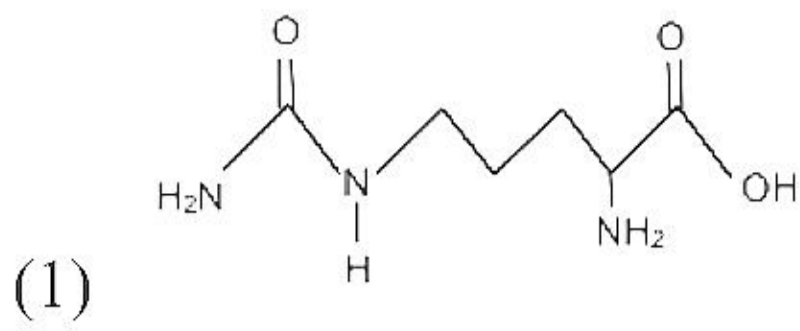
28. Chordae Tendinae is found in :

- (1) Heart of Cockroach
- (2) Heart of Amphibians
- (3) Heart of Reptiles
- (4) Heart of Mammals

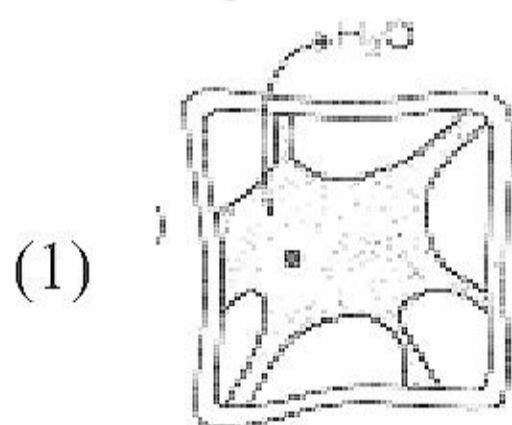
29. Most advanced invertebrates are :

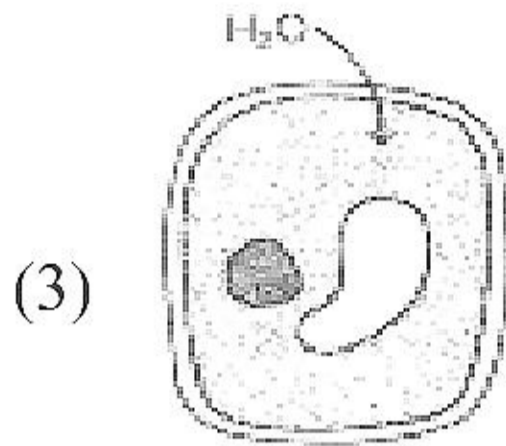
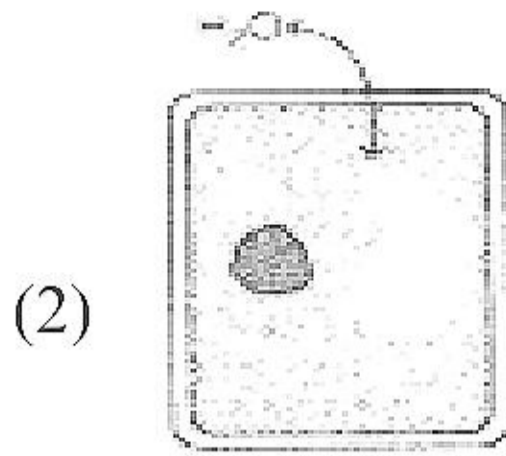
- (1) Arthropoda
- (2) Annelida
- (3) Mollusca
- (4) Cephalopoda

30. Citrulline structure :



31. Cell placed in hypertonic solution is shown by





(4) Both (a) and (b)

32. Which of the following is not considered as a secondary messenger?

- (1) Transduction
- (2) Mutation
- (3) Transformation
- (4) Amplification

33. Which is also called molecular glue

- (1) DNA gyrase
- (2) DNA helicase
- (3) DNA ligase

(4) DNA polymerase

34. In DNA 20% bases are adenine. What percentage of bases are pyrimidines?

(1) 30%

(2) 60%

(3) 50%

(4) 20%

35. Traditional Anesthesia is obtained from

(1) Datura

(2) Poppy

(3) Cannabis

(4) Erythroxylum

36. Band 3 protein in RBC has the function of

(1) It mediates the exchange of cellular HCO_3^- with Cl^- in plasma

(2) It is a cytoplasmic protein

(3) It mediates the exchange of cations between cell and plasma

- (4) Both (a) and (b)
37. Hypothalamus can regulate
- (1) Anger
 - (2) Patience
 - (3) Thermoregulation
 - (4) Pleasure
38. Choose correct option for larva of housefly
- (1) Grub
 - (2) Cypris
 - (3) Naggot
 - (4) Wiggler
39. Radula is a part of which animal
- (1) Mollusca
 - (2) Poriferans
 - (3) Coelenterata
 - (4) Annelida
40. Reproduction without actual fertilisation is called as

- (1) Parthenogenesis
- (2) Parthenocarpy
- (3) Pseudo-reproduction
- (4) All of these

11. Cocervates were discovered by

- (1) Huxley
- (2) Fox
- (3) Oparin
- (4) Miller

12. Which of the following is uricotelic?

- (1) Insects
- (2) Birds
- (3) Lizards
- (4) All of these

13. Choose the correct regarding antibodies

- (1) IgA-Helps in allergic reaction
- (2) IgG- Cross placenta
- (3) IgE- Found in secretions

(4) IgM- Exist as dimer

14. In annealing

(1) Primers anneal to the DNA template

(2) Taq polymerase adds nucleotides to the annealed primer

(3) Two strands of the DNA separate

(4) Temperature in 92 °C

15. Atlas is

(1) 1st cervical vertebrae

(2) 2nd cervical vertebrae

(3) 1st thoracic vertebrae

(4) 2nd lumbar vertebrae

16. Typhoid is caused by

(1) Pneumonia

(2) Filarial worm

(3) *Salmonella typhi*

(4) None of the above

17. Chl- *b* differs from chl-*a* by

- (1) $-\text{CH}_3$ group
- (2) CHO group
- (3) COOH group
- (4) CH_2OH group

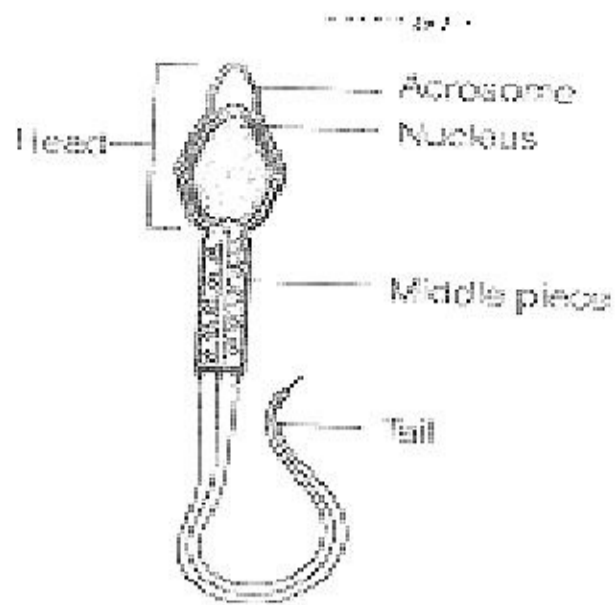
48. Number of chromosomes present in secondary spermatocyte is

- (1) 22
- (2) 23
- (3) 24
- (4) 25

49. Flame cells are present in

- (1) Ascheiminthes
- (2) Playthelminthes
- (3) Anneida
- (4) Cephalochordata

50. Which one of the labeled part utilisees fructose as a source of energy?



- (1) Head
- (2) Tail
- (3) Acrosome
- (4) Middle piece

51. Among the following choose the correct epimers.

- (1) Glucose, galactose
- (2) Glucose, fructose
- (3) Glucose, ribose
- (4) Gluconic acid, glucose

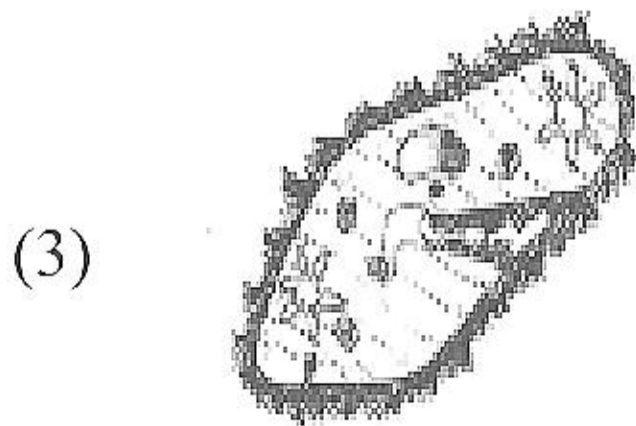
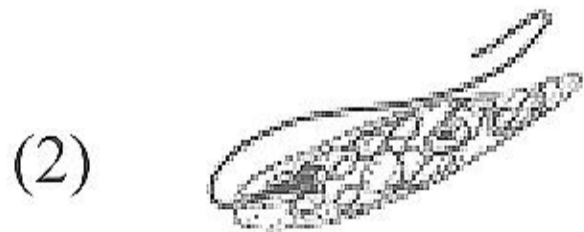
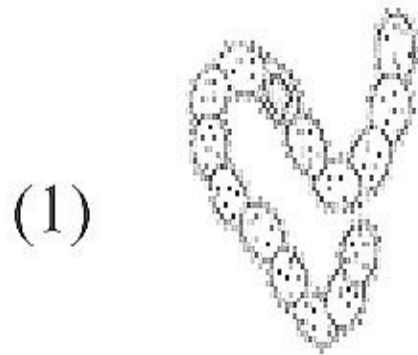
52. Gynaecomastia is present in which syndrome?

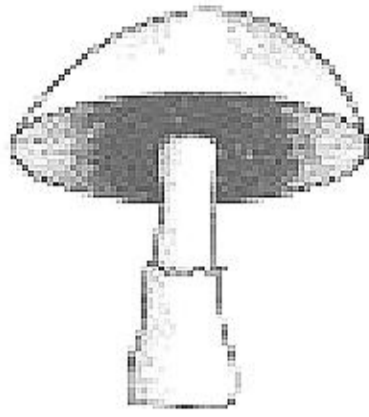
- (1) Turner
- (2) Klinefelter
- (3) Down
- (4) None of the above

53. In gluconeogenesis, which of the following cannot act as substrate?

- (1) Fructose
- (2) Palmitic acid
- (3) Glycine
- (4) Glycerol

54. Identify the diagram of heteocyst.





(4)

55. Which one of them is odd with respect to human male?

- (1) Absence of one X-chromosome
- (2) Addition of one X-chromosome
- (3) Presence of XY- chromosome
- (4) Absence of Barr body

56. Eutrophication is caused due to

- (1) Accumulation of minerals
- (2) Effect of UV-C
- (3) Accumulation of metals only
- (4) Accumulation of zooplankton

57. Synaptonemal complex is formed

- (1) During anaphase
- (2) During metaphase
- (3) During prophase-II

(4) During prophase-I of meiosis

58. Which one is the oldest in following?

(1) Gymnosperms

(2) Angiosperms

(3) Bryophytes

(4) None of these

59. RNA binds to *mRNA* through

(1) Anticodon loop

(2) *T ψ C* loop

(3) Amino acid binding loop

(4) D loop

60. Find odd one out.

(1) Stamen

(2) Stigma

(3) Style

(4) Ovary