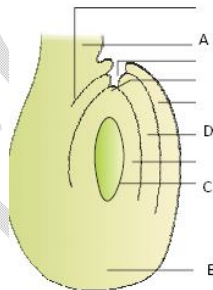




1. Perisperm is found in
 - a) black pepper and mango
 - b) black pepper and orange
 - c) black pepper and beet
 - d) black pepper and coconut
2. Find one true fruit from the following
 - a) Apple
 - b) strawberry
 - c) Peanut
 - d) all the above
3. Raising plants for flowers is
 - a) agriculture
 - b) horticulture
 - c) olericulture
 - d) floriculture
4. After fertilization which of the following will not degenerate in a flower?
 - a) antipodals
 - b) synergids
 - c) secondary nucleus
 - d) all the above
5. Identify the plant in which fruit contain large number of tiny seeds
 - a) orchid
 - b) orobanchae
 - c) striga
 - d) all the above
6. The hormone responsible for development of male secondary sex characters are
 - a) Testosterone
 - b) Interstitial stimulating hormone
 - c) Estrogen
 - d) Progesterone
7. The intra uterine devices are used to prevent
 - a) sperm to reach the egg
 - b) sperm to reach the female
 - c) the sperm from living
 - d) all the above
8. How many letters are used in genetic code?
 - a) 1
 - b) 2
 - c) 3
 - d) 4
9. Marijuana is extracted from
 - a) dried leaves and flowers of hemp plant
 - b) ergot fungus
 - c) root of hemp plant
 - d) cocoa plant
10. Genes are located on
 - a) ribosomes
 - b) lysosomes
 - c) centrosomes
 - d) chromosomes
11. Incomplete division of egg during cleavage is known as
 - a) meroblastic
 - b) holoblastic
 - c) meridional
 - d) spiral
12. Carrying capacity of environment is determined by
 - a) birth rate
 - b) death rate
 - c) limiting resources
 - d) population growth
13. Which RNA does not help in protein synthesis?
 - a) tRNA
 - b) r – RNA
 - c) mRNA
 - d) p– RNA
14. A suckerfish on shark could exemplify
 - a) parasitism
 - b) commensalism
 - c) mutualism
 - d) neutralism
15. Wobble hypothesis was proposed by
 - a) Crick
 - b) Watson
 - c) Pasteur
 - d) Lavoiser
16. When the phenotypic and genotypic ratios resemble in the F₂ generation, it is an example for
 - a) complete dominance
 - b) Incomplete dominance
 - c) Dihybrid cross
 - d) Test cross
17. The developing ovarian follicle produces
 - a) FSH
 - b) LH
 - c) progesterone and estrogen
 - d) estrogen
18. Alcohol addiction is harmful because it causes
 - a) cancer
 - b) rise in blood sugar level
 - c) deposition of extra fat in liver
 - d) protein deposition in liver
19. A method of birth control is
 - a) GIFT
 - b) HJF
 - c) IVF – ET
 - d) IUD'S
20. The type of RNA specifically responsible for directing the proper sequence of aminoacids in protein synthesis is
 - a) r–RNA
 - b) t–RNA
 - c) m–RNA
 - d) chromosomal RNA
21. LSD is
 - a) Narcotic
 - b) Stimulant
 - c) Article present
 - d) hallucinogen
22. Which blood group is a universal recipient
 - a) O
 - b) AB
 - c) B
 - d) A
23. If the codon of mRNA is AUG what should be its anticodon on tRNA?
 - a) TAC
 - b) AUG
 - c) UAC
 - d) CUA
24. It is not immunity related disease
 - a) AIDS
 - b) Polio
 - c) Cancer
 - d) Small pox
25. Monocytes and neutrophils are important cells participating in
 - a) perform production
 - b) phagocytosis
 - c) passive immunity
 - d) antibody production
26. Genetic constitution of Klinefelter's syndrome is
 - a) 44 + XXY
 - b) 44 + XOC
 - c) 42 + XXXX
 - d) 44 + XX
27. Which of the antibody is concerned with allergic reactions?
 - a) IgE
 - b) IgG
 - c) IgM
 - d) IgA
28. In E. Coli the lac operon is induced by
 - a) Lactose
 - b) I gene
 - c) Promoter
 - d) β – galactosidase
29. Chromosome number of Down's syndrome is
 - a) 46
 - b) 47
 - c) 23
 - d) 45
30. Ozone protects the biosphere from high energy
 - a) Infrared rays
 - b) Ultraviolet rays
 - c) X rays
 - d) Gamma rays
31. The chromosome that determines the male sex in human is called
 - a) X– chromosome
 - b) Y – chromosome
 - c) W – chromosome
 - d) Z – chromosome
32. Crow also incubate eggs of
 - a) Pigeon
 - b) Cuckoo
 - c) Dove
 - d) Weaver bird
33. Inheritance of ABO shows
 - a) polyploidy
 - b) incomplete dominance
 - c) multiple allelism
 - d) polygeny
34. July 11 is observed as
 - a) world population day
 - b) not tobacco day
 - c) world environmental day
 - d) world health day
35. 'Genetic engineering experiments' EcoRI can generate
 - a) blunt end cutting
 - b) blunt or sticky end cutting
 - c) sticky end cutting
 - d) all the above
36. 'The integration of natural science and organisms, cells, parts thereof, and molecular analogues for products and services'. This statement is connected with



- a) EFB b) GEAC
c) CCMB d) DBT
37. Mendel's work was rediscovered in
a) 1756 b) 1865 c) 1900 d) 1910
38. Which type of cleavage occurs in the zygote of human female?
a) Holoblastic and equal
b) Mesoblastic c) Holoblastic and unequal
d) dibloblastic
39. Study of population trends is
a) Kalography b) Psycho biology
c) biography d) demography
40. The process of release of ova is called
a) menstruation b) ovulation
c) oogenesis d) gastrulation
41. A man of a blood group marries a women of "AB" blood group. Which type of progeny would indicate that man is heterozygous?
a) O b) B c) A d) AB
42. In biotechnology, the process elution is connected with
a) visualisation of DNA b) movement of DNA
c) separation of DNA from gel
d) breaking of DNA into fragments
43. Find the incorrect statement from the following
a) In a transverse section, a typical angiosperm microsporangium appears near circular in outline.
b) a microsporangium is generally surrounded by four wall layers – the epidermis, endothecium, middle layers and the tapetum.
c) The innermost wall layer of microsporangium is endothecium.
d) Cells of the tapetum possess dense cytoplasm and generally have more than one nucleus.
44. In Papaver plant, the gynoecium is
a) Multicarpellary and syncarpous
b) Multicarpellary and apocarpous
c) Bicarpellary and syncarpous
d) Tricarpellary and syncarpous
45. Identify 'A' from the following diagram



- a) micropyle
b) chalaza
c) egg apparatus
d) funicle
46. Filiform apparatus is connected with the
a) antipodals b) synergids
c) secondary nucleus d) egg
47. In many varieties of ----- and ----- the nucellar cells surrounding the embryo sac start dividing, protrude into the embryo sac and develop into the embryos.
a) citrus and mango b) citrus and coconut
c) mango and coconut d) citrus and apple
48. Fertile part of stamen
a) anther b) filament
c) endothecium d) connective
49. Meiosis in anther occurs in
a) endothecium cells b) tapetal cells
c) spore mother cells d) none
50. There are no floral rewards in
a) Pisum sativum b) Musa
c) Maize d) Erythrina

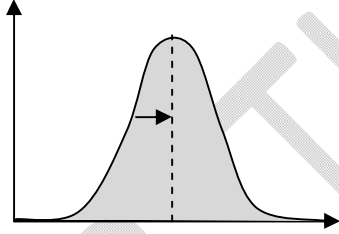
51. Generally, the ploidy of testa in a dicot plant is
a) diploid b) haploid
d) triploid d) polyploidy
52. Dicot embryo consists of
a) radicle and plumule
b) radicle, plumule and two cotyledons
c) radicle, plumule, cotyledon and testa
d) radicle, plumule, cotyledon and tegmen
53. The scientist who worked in Malay Archepelago supported
a) artificial selection b) natural selection
c) mutation breeding d) special creation
54. Different periods in the history of earth is divided into
a) epochs, periods and eras
b) epochs, periods, millennium and eras
c) epochs, periods, light years and eras
d) none
55. Heroin is obtained from plant of family
a) Papaveraceae b) Leguminosae
c) Cruciferae d) Liliaceae
56. Transcription is the transfer of genetic information from
a) DNA to mRNA b) tRNA to mRNA
c) mRNA to rRNA d) Chromosome to cytoplasm
57. Cervix occurs in
a) kidney b) fullopian tube
c) between uterus and vagina
d) epididymis
58. Ability to produce maximum offspring is
a) biotic potential b) carrying capacity
c) environmental resistance
d) none of these
59. Artificial immunity can be acquired from a
a) vaccination b) serious illness
c) pencillin d) all of these
60. A genetic disease in many Africans which reduce the oxygen uptake by RBC is known as
a) anaemia b) haemophilia
c) pernicious anaemia d) sickle cell anaemia
61. Which of the following is an autoimmune disease?
a) cholera b) rheumatic fever
c) typhoid fever d) malaria
62. HIV is
a) Rhabdovirus b) Retrovirus
c) Arbovirus d) Enterovirus
63. Which state of plasmodium is infective for mosquito?
a) trophozcote d) gametocyte
c) ookinete d) sporozoite
64. Unfertilized egg of human contains
a) xx chromosomes b) one x chromosome
c) one y chromosome d) x and y chromosomes
65. Filarial worm remains in
a) intestine b) lymph channels
c) RBC d) brain
66. The triplet UUU codes for
a) leucine b) glycine
c) methionine d) phenyl alanine
67. Kala azar is caused by
a) Trypanasoma b) Leishmania
c) Trichomonas d) Balantidium
68. Gene responsible for the synthesis of a polypeptide chain is



- a) structural gene b) operator gene
c) regulator gene d) hn mRNA
69. T cells are responsible for
a) cellular immunity b) humoral immunity
c) both of these d) none of these
70. Corpus luteum secretes
a) progesterone b) estrogen
c) lutenizing hormone d) FSH
71. Pteranodon come in the family history of
a) Bougainvillea and cucurbita
b) Marsupials of Australia
c) Darwin finches of Galapagos islands
d) Dinosaurs
72. The given picture represents



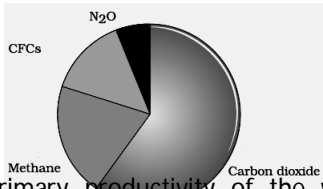
- a) homologous organs
b) analogous organs
c) convergent evolution d) none
73. Some bacteria able to grow in streptomycin containing medium is due to
a) Induced mutation b) Natural selection
c) Artificial selection
d) Reproductive isolation
74. Identify the type of natural solution.



- a) stabilizing selection
b) disruptive selection
c) directional selection
d) artificial selection
75. Tasmanian wolf is a marsupial while wolf is a placental. This show
a) Convergent evolution
b) Divergent evolution
c) Disruptive selection d) Atavism
76. If we accept special creation theory, the age of the earth could be
a) 10000 years b) 20000 years
c) 40000 years d) 4000 years
77. Marsupials of Australia exhibits
a) Convergent evolution
b) Adaptive radiation
c) Captive breeding d) Analogous
78. Meloidegyne incognitia attack
a) leaves and shoot of tobacco plant
b) roots of tobacco plant
c) stem of tobacco plant
d) xylem and phloem of tobacco plant
79. Howard Florey was connected with
a) Genetic engineering b) Cloning
c) Microbiology d) Hybridization
80. Find the mismatch
a) IR 8 – Developed at Central Rice Research Institute, Orissa

- b) Saccharum officinarum – South Indian Sugar cane variety
c) Pusa gaurav – Brassica variety
d) Himgiri – wheat variety
81. How can you tackle the problem of radio active wastes?
a) storage of nuclear waste, after sufficient pre-treatment within suitably shielded containers buried within the rocks, about 500 m deep below the earth's surface
b) incinerators c) biological treatment
d) all the above
82. In split genes, the coding sequences are called
a) exons b) introns
c) cistrons d) operons
83. Geometric representation of age structure is a characteristic of
a) population b) landscape
c) ecosystem d) biotic community
84. The four nitrogen base sequence which form the code words for DNA language are
a) UTAC b) ACYU
c) ATCG d) AGCU
85. DNA finger printing methods is very useful for
a) DNA tests for identify and relationships
b) forensic studies c) polymorphism
d) all the above
86. The relationship between two species in which one is inhibited or harmed by the presence of other is
a) commensalism b) amensalism
c) mutualism d) symbiosis
87. Who is responsible for male child birth?
a) Mother b) Father
c) Both d) None
88. Spermicides kill the sperms in the
a) vagina b) cervix
c) fallopian tube d) both (a) and (b)
89. Reserpine yielding plant is
a) Ruelia b) Ixora
c) Rauwolfia d) Datura
90. With respect to global biodiversity, major share of vertebrates are
a) fishes b) amphibians
c) reptiles d) mammals
91. India's share in the global species diversity is
a) 81% b) 33% c) 2.4% d) 8.1%
92. For frugivorous birds and mammals in the tropical forests of different continents, the slope of the line of species area relationship (z , regression coefficient) is found to be
a) 0.6 to 1.2 b) 1.15
c) 0.6 d) none
93. Name the German naturalist and geographer, who did extensive explorations in the wilderness of South American jungles for species area relationships
a) Alexander von Humboldt
b) David Tilman c) Edward Wilson
d) Paul Ehrlich
94. Keolado National Park (Bhartpur) is at
a) Meghalaya b) Rajasthan
c) Tamil Nadu d) Maharashtra
95. Under unfavourable conditions many zooplankton species in lakes and ponds are known to enter a stage of suspended development known as
a) diapause b) aestivation



- c) migration d) none
96. Which of the following is not an adaptation in plants?
- a) Many desert plants have a thick cuticle on their leaf surfaces and have their stomata arranged in deep pits to minimise water loss through transpiration.
- b) Some desert plants also have a special photosynthetic pathway (CAM) that enables their stomata to remain closed during day time.
- c) Some desert plants like *Opuntia*, have no leaves – they are reduced to spines–and the photosynthetic function is taken over by the flattened stems.
- d) desert plants possess hydathodes to avoid water
97. Of the various gases which are contributing global warming, what is the percentage contribution of CFC's?
- a) 60%
b) 20%
c) 6%
d) 14%
- 
- | Gas | Percentage |
|------------------|------------|
| Methane | ~14% |
| Carbon dioxide | ~60% |
| N ₂ O | ~6% |
| CFCs | ~20% |
98. The annual net primary productivity of the whole biosphere is approximately 170 billion tons (dry weight) of organic matter. The productivity of the oceans are only ----- billion tons.
- a) 55 b) 5.5 c) 550 d) 0.5 e) 0.05
99. Vertical distribution of different species occupying different levels in an ecosystem is called
- a) scarification b) scalariforms
c) stratification d) all the above
100. The minimum number of components required for an ecosystem to survive are
- a) Producers and Decomposers
b) Producers consumers and decomposers
c) Producers and consumers
d) Primary consumers and decomposers
101. Sedimentary cycle is
- a) carbon cycle b) nitrogen cycle
c) sulphur cycle d) all the above
102. Glomus is connected with
- a) saprophyte b) parasite
c) mycorrhiza d) epiphyte
103. In mycorrhizal association, the fungal symbiont in these associations absorbs phosphorus from soil and passes it to the plant. This statement is
- a) true b) false
c) never true d) none of the above
104. Pheromones are useful in
- a) insect control b) weed control
c) fungal control d) none of these
105. 'disarmed pathogen' vectors are useful in
- a) gene transfer b) gene cloning
c) gene elution d) gene electrophoresis
106. Find the organism which is connected with illegal aquaculture in India
- a) *Clarias gariepinus* b) Nile perch
c) Cichlid fish d) prawn
107. Exploring molecular genetic and species level diversity for products of economic importance is
- a) biopharming b) bioprospecting
c) biosynthesis d) biomagnifications
108. Find the incorrect pair
- a) Earth Summit (1992) – Rio de Janeiro
b) Slash and burn agriculture – Jhum cultivation
c) Ramesh Chanda Dagar – E waste
d) Environment Act – 1986
109. Find the incorrect match
- a) Catalytic converter – carbon dioxide and nitrogen oxide
b) ESP – particulate matter
c) Earmuffs – noise pollution
d) Landfills – solid wastes
110. Lysozymes can be used for the separation of genetic material from
- a) *Chlamydomonas* b) *Spirogyra*
c) Bacteria d) Yeast
111. The genetically modified organism ----- can be used to test the polio vaccine. If it is successful and found to be reliable, they could replace the use of ----- to test the safety of batches of vaccine.
- a) *E. coli* and CC cat b) CC cat and cow
c) CC cat and disarmed retro virus
d) mice and monkeys
112. Mutations in body can be detected by molecular diagnostic tool
- a) autoradiography b) ELISA
c) PCR d) phase contrast microscope
113. To be successful in evolution, a mutation must occur in
- a) plasma proteins b) somatoplasm DNA
c) germplasm DNA d) any DNA in the body
114. Initiating force of evolution is
- a) selective breeding b) mutation
c) adaptation d) migration
115. Some of the land reptiles went back into water to evolve into fish like reptiles probably (e.g. *Ichthyosaurs*).
- a) 300 mya b) 200 mya
c) 500 mya d) 600 mya
116. Triple fusion in angiosperm is the fusion of second sperm with
- a) antipodal cell and one synergid cell
b) two antipodal cells
c) two synergid cells
d) two polar nuclei
117. In a pond ecosystem, the respiration cost of herbivores is about
- a) 20% b) 30% c) 60% d) 50%
118. Realising the significance of participation by local communities, the Government of India has introduced the concept of Joint Forest Management (JFM) in the year
- a) 1970 b) 1980 c) 2001 d) 2003
119. Biological agents which can act as particulate matter
- a) conidiospores b) spores
c) pollen d) all the above
120. Extra chromosomal bodies in paramecium are
- a) plasmids b) lambda particles
c) kappa particles d) episomes
121. The percentage ratio of natality over mortality is called
- a) vital index b) population density
c) total count d) none of these
122. Which mammal excrete solid urine to avoid water loss?
- a) crow b) kangaroo rat
c) camel d) squirrel