

ICMR JRF Question paper 2010 – Memory based

1. The algorithm used for alignment of two sequences is

a) Algebraic b) Dynamic etc

2. Smith waterman algorithm is used for

Ans: Local alignment

3. How much % identity should be present for homology modelling (Question

language was different in exam)

Ans: 25%

4. Which is bigger than PROTON

a) proton b) Neutron c) Electron etc

5. If 75% of a number is reduced from that number the answer is 75. find the number..

Ans:300

6. Wright brothers discovered.

Ans: Aeroplane



7. If a women having X-linked recessive disease marries man with Autosomal

dominant disease, then what will happen to progeny (daughter and son)

8. If glycine with labelled N is used for adenosine synthesis, which N will be labelled

in ring?

9. Function of cortisone?

10. How calcitonin reduce calcium concentration?

11. Which chamber of heart has thickest wall?

12. Tautomeric mutation will cause?

13. Enzyme used in translation- aminoacyl trna / ribozyme / dna polymerase / rna

polymerase?

14. Units to measure interrupted mapping- minutes

15. Bird's sex chromosome: ZZ, ZW

16. Aging in humans is caused by?

17. Study of human sense organs
18. DNA is : contains genes/contains protein coding information to ribosome
19. Which antibody is known as reactin
20. Toxin often used in immunological tests
21. Lyme disease- Borrelia burgdorferi
22. Down's syndrome-trisomy
23. Aggregin- a platelet ADP receptor that mediates activation
24. Gibberelin if applied in sweet potato
25. male swine castrated puberty is Barrow
26. homeostasis is seen in only – all living organism
27. which of the following supplies free energy to cytoplasm during oxidative respiration –
28. how many nucleotides are there in a complete turn of DNA- 10
29. antibodies purified by
30. Which disease is diagonised by immunofluorescence or zonal electrophoresis
31. endophytes
32. spores formed by thickening wall
33. When a probe is used for the identification of a gene sequence in a genomic library, the probe may hybridize with a number of clones, each carrying a part of a large gene fragmented during preparation of genome library – chromosome walking
34. Which one is a viral disease- hog cholera
35. Influenza is caused by?
36. In EPROM 'P' stands for- programmable
37. Lysosome is found in-tears
38. In giraffe no. of cervical vertebrae is-
39. Trachoma is a viral/parasitic/bacterial/fungal disease.
40. Cholesterol is not dissolved in.
41. who prepared the logarithm table

42. Who invented hypodermic syringe?

43. Reverse osmosis method is used for? Ans- waste water treatment

44. Which of the following is a primary immune deficiency?

45. Which of the following is the cause of viral disease.

cholera, anthrax, haemorrhagic septicemia the other option is the answer because all these are bacterial of course

46. Most appropriate method of sampling in small fixed no. of samples

47. which can be recovered from adsorption....enzyme, antibody...etc

48. Which one is exclusively in monomer.

Ig A IgG IgE Ig M

49. Alloy of Brass

Cu + Zn, Cu + tin

50. TB test is done by. (Some different aspect was asked) like. Previously it is was done

by different chemicals, now it is replaced by something . what is that?

51. Tenia saginata is also called

Beef tape worm, pork tape worm etc.

52. Gene that expression can't see in phenotypic change.

Null gene, silence gene

53. What would happen if gravitational force is not there.

Universe will collapse, earth will divide in two part, all material will go to the earth core.

54. Cell wall is not present in –

Bacteria, plant cell, endospore.

55. Which one is correct for HLA

It is multigenic character, present on X chromosome.

56. In ABO blood group how many genotypes are found.

2, 4, 8, 16

57. How many different gametes will form from AaBbccDDEe

4, 8, 16, 32

58. Mean weight is 20 kg, 95% confidence limit, S.E. 2. what is the upper limit.

20, 18, 22, 24.

59. 330 m/s velocity of sound, 2 seconds echo from a mountain. Then distance of mountain is- 330 m, 660m.

60. If a disease is X linked dominant . the father is having a disease and married with a un diseased women. There progeny will be...

50 % of their daughter affected,

all daughter are affected

all sons are affected,

50% daughter and 50% sons are affected.

61. Hypomagnesia in farm cattle causes

Milk fever, hematuria,

62. Why in autumn leaves change its colour.

Degradation of chlorophyll, synthesis of new pigment.

63. Endophytes are –an endosymbiont (often a bacterium or, fungus) that live within a plant.

64. Cell wall is not present in – protozoa(entoamoebic cyst)

65. Faraday's invention is in—electrolysis

66. The science that deals with perception behaviour of animals is called- bionics

67. Eugenics- deals with improving a population by selective breeding.

68. Which of the following is known as reaginic antibody

Ans- IgE

69. Which of the following is called the membrane attack complex

Ans- C56789

70. Who invented Log book?

Ans- John Napier

71. In 2010 scientist have found life on Titan which is the satellite of planet: Ans-Saturn

72. sieve cells are present in- phloem
73. down syndrome is case of- aneuploidy
74. measure of dispersion is- range
75. neurospora is used in genetic studies - as all four meiotic products are present in tetrad
76. hypodermal syringe was invented by 77.
- a process to remove contaminants, pollution from soil/water by using living organisms- bioremediation
78. in lytic cycle, enzyme produced at time of cell lysis- endolysin
79. adsorption process used to separate- vitamins
80. basis of biuret reaction- aromatic amino acids tryptophan/tyrosine
81. fats are changed to carbohydrates in plants by- glyoxylate cycle
82. amines are found in- mast cells
83. a lipoprotein moving at fastest speed in electrophoresis- VLDL, LDL, HDL, VHDL
84. Gibberlin induce- breaking dormancy of bud & development of new buds
85. neutron bomb is a safe bomb- as it destroys only concrete structures
86. if no gravitational force exists on earth - man will sink to core of earth
87. proteins that assist in proper folding of other proteins- chaperones
88. log tables are given by-
89. The component used in immunotoxins is?
90. The male swine castrated before maturation is called?
91. Poly A tail is present in?
92. Weil felix test is negative in?
93. Hypomagnesemia in cattle is also known as?
- 94. Poly A tail is present in?**

Ans-mRNA.

95. No. of gametes formed from the genotype AbBbccDDEe?

Ans.- $(2+2+1+1+2)=8$

96. Potatotuber is a modified? Stem.

97. Vaccination neddle was invented by

a.Edward Jenner b.Benjamin Rubin c.Louis pastuer d. Robert Koch.

98. Robert Koch studied the disease caused by bacteria in man realted to

a. tuberculosis b.anthrax c.influenza. d.cholera

99. Which of the following is caused by virus

a. anaplasmosis b. hog cholera c.typhoid d.septicemia

100. Dna is

a. requires uracil for its synthesis

b. found in the nuclues

c. involves in protein sysnthesis

d. is made up of genes

101. Frame shift mutaion is caused by

a. inversion/deletion of a base

b.translocation

102. Base deamination cause mutaion example

a. demanination of G pairs to U

b. deamination product of G binds to U

c. deamination of C pairs with A

d. deamination product of C binds with A

103. If a population comes into existance because of the effect of some population

and vice versa such evolution is called

a. coevolution b. parallel evoluion c.convergent d. divergent

104. How many genotypes will be produced in an ABo blood group system

a.3 b.6. c.4 d. 8

105. How many gametes will be produced by a person having AbBbccDDEe

a. 5 b. 8 c.10 d. 14

106. If thera 20% chaismas formed during a croosover what is the percentage



chance of formation of Ab from an AB/ab

a. 10 b 20 c 30 d 40

107. Weil Felix test is negative for

a. epidemic thypus b. endemic typhus c. q fever d spotted fever

108. reducing equivalent are transported from mitochondria to cytoplasm via

a. oxalate b. citrate c. succinate d. malate

109. which is the amino acid formed from TCA products

a. alanine b. aspartate c. serine d. cysteine.

110. Biogenic amines are stored in which cells ?

111. Lysozymes are naturally present in which of the following secretion

a. saliva b. tear c. sweat d. urine

112. If breadth of a rectangle reduced by 10% and length increased by 10% then the

area will i. increased by 10%, ii. decreased by 10%

113. 10 books each with 100 pages arranged in bookshelf . a book worm cuts the

pages from 1st page of first book to last page of last book. so how many pages will

be undamaged?

i. 0

ii. 4

iii. 98

iv. 1000

114. Wright brother invent

i. airplane

115. Light year is the measurement unit of

i. speed

ii. distance

iii. intensity

iv. light

116. Faraday's invention is in

- i. electrolysis
- ii. Chromatography

117. What are the possible phenotype for ABO blood group system for each allele?

- i.4
- ii.8
- iii.16
- iv.32

118. Pair wise alignment program is

- i. statistical program
- ii. dynamic program
- 3. Smith Waterman algorithm is for

- i. global alignment
- ii. local alignment
- iii. multiple alignment

119. which of the following is a fold recognition program?

- i. PSIPRED
- ii. SWISS MODEL
- iii. PHD

120. Teneo saganata is tape worm of

- i. Pig
- ii. Lamb
- iii. dog

121. In a nucleic acid

a=21% t=30% g=28% c=22%

122. Which type of nucleic acid it is?

- i. single stranded DNA
- ii. double stranded DNA
- iii. single stranded RNA

iv. double stranded RNA

123. pH of rumen contents is: 5.5-6.0

124. influenza is caused by

bacteria / virus/ protozoa / fungi

125. anticodon is found in

tRNA

tRNA and mRNA

mRNA and complementary DNA

mRNA and transcribed DNA

126. frameshift mutation is caused by

insertion/deletion

base analogs

transition

127. which toxin is generally used for immunotoxin prep

aflatoxin

hemolysin

128. function of secretory chain of IgA

129. biogenic amines is stored in

130. function of secretory chain of IgA

131. enzyme used in translation

132. enzyme used in DNA synthesis

133. characteristic of terrestrial ecosystem

134. sequence alignment is performed by

135. Smith-waterman Algorithm is used for

136. Titan is the moon of which planet ?

a. saturn b. jupitur c. mercury. d. venus.

137. Titan is estimated to had life. Scientist of nasa concluded this result on the

dissapearnace of whcih of the following gases



a. co₂ b.o₂ c. hydrogen d. water vaopur.

138. If the length of the rectangle is increased by 10 % and breadth reduced by 10%

what will happen to the area:

a. increase by 10% c. Decrease by 1%

b. increase by 1% d. Decrease by 10%

139. A 100 w bulb is lit for 10 hrs everyday in the month of september. calulate the power consumed.

a. 3kwh b. 30 kwh c.300 kwh d. 3000kwh.

140. at 95% confidence interval predict the upperlimit of the weight of weight of 100 childeren with a mean of 20 kg and std deviation of 2kg.

a.15 b.18.c.22. d. 24

141. influenza is caused by which pathological agent

142. Which of the following do not have cell wall?

a. bacteria. b.fungus c. plants d. entoamoebic cyst.

143. which is the measure of dispersion in a given data

a. range b. mean c. median. d. mode.

144. which gives the accurate precision in sampling process.

a cluster sample. b. stratified random sample c. systematic random sample. d simple random sample

145. Super semi conducturs belong to which class

a. metals b. inorganic plymers c. rare earth metals

146. Which of the following is found in nature in free state

a. gold b.silver c. copper d. aluminium

147. Which of the following is most inert metal

a. platinum. b.silver c. aluminium. d. gold

148. The science that deals with perception behaviour of animals is called

a. bionics. c. biogenomics. bionics c. biozone

149. Whats is an ecotone

150. Fathometer is used for

- a. measuring depth of ocean
- b. measuring earthquake
- c. measuring rainfall in sea
- d. measurement of volcano eruption

151. Brominated vegetable oil is banned. Which is used as dispersant in cold drinks?

152. Which is the largest organ in Human body?

153. The gas used in cigarette lighter?

154. Method used to find difference between newly laid hen's eggs and old ones?

155. Why growth stops in humans after certain stage?

156. Chemical name of bleaching powder?

157. Photochemical smog can be produced using?

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