1. નીચેનામાંથી ક્યો દ્વંદ્વ સમાસ છે ?

A. દેશ પ્રેમ
B. લાભાલાભ
C. ભજનમંડળી
D. નટવર

2. નીચે આપેલા અર્થભેદ : શબ્દભેદમાંથી ખોટો વિકલ્પ શોધો.

A. ખાધ – ખોટ
B. ખાદ્ય – ખવાય એવું
C. અબજ - સો લાખની સંખ્યા
D. અજબ - નવાઇ ઉપજે એવું

3. સાચી જોડણી જણાવો .

A. તિલાંજલિ
B. તિલાંજલી
C. તીલાંજલી
D. તીલાંજલિ

4. 'છકડો પાણીપંથો ઘોડો બની ગયો' અલંકાર ઓળખાવો.

A. ઉપમા
B. સજીવારોપણ
C. વ્યાજસ્તુતિ
D. રૂપક

5. આમા કોણ બંધબેસતુ નથી ?

A. કંચન
B. કથિર
C. સુવર્ણ
D. સોનુ

6. મનહર છંદમાં પહેલી તથા બીજી પંક્તિમાં કેટલા અક્ષરો અનુક્રમે હોય છે

A. 16, 15
B. 15, 16
C. 16, 17
D. 17, 16

7. રૂઢિપ્રયોગનો સાચો અર્થ શોધો દૂધે ધોઈને આપવા :

A. પ્રામાણિકપણે ચૂકતે કરવું
B. અપ્રામાણિક
C. સત્ય ન હોવું
D. ઉજળું કરવું

8. વિધા + ઉત્તેજક' સંધિ જોડો

A. વિધાત્તેજક
B. વિધઉત્તેજક
C. વિધોત્તેજક
D. વિધાઉત્તેજક

9. 'ઉધમી' શબ્દનો વિરુદ્ધાર્થી શબ્દ લખો.

A. કામગરો
B. આળસું
C. નિંદાધોર
D. ઉધમવાળો

10. 'મિત્રોએ નવલકથા ટેબલ પર મુકી' - ક્રિયા જણાવો

A. રીતિવાચક
B. હેતૂ વાચક
C. સ્થળ વાચક
D. પરિણામ વાચક

11. Who is older ..... you two?

A. among
B. from
C. between
D. on

12. Find the correct spelling:

A. beneficial
B. bineficial
C. benificial
D. binificial

13. Select the proper question tag: Everyone stood up, ...?

A. didn't they
B. did he
C. wasn't he
D. were they

14. Fill in the blank:
At 9.00 am tomorrow, I ..... in a bus with my parents

A. will travelling
B. will be travelling
C. will be travel
D. will travel

15. Complete the sentence-
"Shakuntalam".....by Kadidasa.

A. was written
B. written
C. wrote
D. writes

16. Use the correct article to complete the sentence-
My shop is near ..... Mall road.

A. a
B. an
C. the
D. none

17. Use the correct quantifier to complete the sentence-
Hari Works ..... of the three of us.

A. much
B. more
C. little
D. most

18. Fill in the blank-
His house is ..... to mine.

A. next
B. nearest in
C. the next
D. near

19. Which of the following is the correct sentence-

A. Raja has liked to play hockey
B. Raja was liking to Play Hockey
C. Raja likes to Play Hockey
D. Raja is liking to Play Hockey

20. Use the correct verb to complete the sentence-
Neither the man nor his wife .....at home yesterday.

A. is
B. was
C. are
D. were

21. તાજેતરમાં કયા દેશે સ્મારક લોગોનું અનાવરણ કરીને ભારત સાથે રાજદ્વારી સંબંધોના 60 વર્ષની ઉજવણી કરી?

A. જાપાન
B. રશિયા
C. અમેરીકા
D. સિંગાપોર

22. ખિલજી સુલ્તાનના લશ્કરે ઈ.સ.1299માં ગુજરાત પર આક્રમણ કર્યું ત્યારે અણહિલવાડનો શાસક કોણ હતો?

A. ભોલા ભીમ
B. કર્ણદેવ વાઘેલા
C. કુમારપાળ
D. લવણપ્રસાદ

23. જખૌ બંદર કયા જિલ્લામાં આવેલું છે?

A. કચ્છ
B. બનાસકાંઠા
C. સાબરકાંઠા
D. પાટણ

24. xyz@yahoo.com માં xyz શું છે?

A. યુઝરનેમ
B. સર્વિસ પ્રોવાઇડર નેમ
C. મેઇલ નેમ
D. ડોમેઇન નેમ

25. આપેલ શ્રેણી પૂર્ણ કરો.

3, 5, 9, 15…….?

A. 20
B. 23
C. 22
D. 21

26. ભારતમાં ગૃહવપરાશ માટેનાં AC વોલ્ટેજનું મૂલ્ય અને આવૃત્તિ શું છે ?

A. 110V, 60Hz
B. 110V, 50Hz0
C. 230V, 50Hz
D. 220V, 60Hz

27. કોઈ એક સંખ્યાને 56 વડે ભાગવાથી 29 શેષ વધે છે જો તે સંખ્યાને .8 વડે ભાગીએ તો કેટલા શેષ વધે છે?

A. 4
B. 5
C. 3
D. 0

28. હવેલી સંગીત કોની સાથે સંકળાયેલું છે?

A. રાજાઓ
B. ધનાઢ્ય વેપારીઓ
C. પુષ્ટી સંપ્રદાયો
D. માનભટ્ટો

29. ભારતમાં સંઘ સરકારની કારોબારીના બંધારણીય વડા કોણ છે ?

A. પ્રધાનમંત્રી
B. રાષ્ટ્રપતિ
C. સ્પીકર
D. ઉપરાષ્ટ્રપતિ

30. પંચાયતી રાજ સંસ્થાઓ માટે ચૂંટણીઓનું આયોજન કોણ કરે છે ?

A. કેન્દ્રીય ચૂંટણી આયોગ
B. રાજય ચૂંટણી આયોગ
C. રાજ્યની વિધાનસભા
D. રાજ્યપાલ

31. કુસ્તીમાં ઓલિમ્પિકમાં મેડલ જીતવાવાળી પ્રથમ ભારતીય મહિલા કોણ છે?

A. પીસંધુ .વી.
B. દીપીકા કુમારી
C. ગીતા ફોગટ
D. સાક્ષી મલિક

32. જૈવ વિવિધતામાં કયારે ઘટાડો જોવા મળે છે ?

A. ધ્રુવથી વિષુવવૃત્ત તરફ જતા
B. મકરવૃત્તથી વિષુવવૃત્ત તરફ જતા
C. વિષુવવૃત્તથી ધ્રુવ તરફ જતા
D. કર્કવૃત્તથી વિષુવવૃત્ત તરફ જતા.

33. નાગરિક અધિકાર પત્રનો મુખ્ય ઉદ્દેશ શું છે ?

A. જાહેર સેવાઓની ગુણવત્તા સુધારવી
B. કંઈક ખોટું થાય તો તેના ઉપાયો કેવી રીતે મેળવવા
C. સરકારી અધિકારીઓ સાથે શી રીતે સંપર્કમાં આવવું
D. ઉપરના તમામ

34. નીચેનાને ચઢતાં ક્રમમાં ગોઠવો.

1- બીટ
2- બાઈટ
3- ગીગા બાઈટ
4- કિલોબાઈટ
5- મેગાબાઈટ

A. 2, 1, 3, 4, 5
B. 2, 1, 4, 5, 3
C. 2, 1, 5, 3, 4
D. 5, 3, 2, 1, 4

35. 'સેન્ટ્રલ સોલ્ટ એન્ડ મરીન કેમિકલ્સ રિસર્ચ ઈન્સ્ટિટ્યૂટ' ગુજરાતમાં ક્યાં આવેલી છે?

A. ભાવનગર
B. જામનગર
C. બોટાદ
D. મરેલી

36. Which of the following is HGPRT+ and survives in HAT medium

A. B cells
B. Myeloma cells
C. Hybrid cells
D. Both a and c

37. The optimum pH required for the growth of mammalian cells is

A. 5.3-7.0
B. 6.5-7.0
C. 7.2-7.4
D. 8.1-8.9

38. Which cell line is used for production of recombinant sex hormones

A. BHK cell line
B. Vero cell line
C. Hela cell line
D. CHO cell line

39. Which of the following is most commonly used cell fusing agent

A. Polyethylene Glycol (PEG)
B. NaNO3
C. Sendai virus
D. Polyvinyl alcohol

40. In Drosophila sex is determined by the ratio of X chromosome to _____.

A. Allosomes
B. Autosomes
C. Both of above
D. None of above

41. Crossing over occurs in the _____stage of meiosis.

A. Leptotene
B. Pachytene
C. Diakinesis
D. Diplotene

42. The chart of images of chromosomes is called _____.

A. Karyotype
B. Pedigree
C. Chromochart
D. Punnett chart

43. If a woman heterozygous for colour blindness marries a colour blind man, what is the probability that their first child will be colour blind daughter?

A. 50%
B. 25 %
C. 75%
D. 100%

44. For inbreeding, mated individuals should have common ancestors with in

A. 2-3 generations
B. 4-6 generations
C. 6-7 generations
D. more than 10 generations

45. In MN blood group system, genotypes are MM = 153, MN = 260, NN = 87, then the gene frequencies of M and N alleles are:

A. 0.64 and 0.36
B. 0.5 and 0.5
C. 0.566 and 0.434
D. 0.518 and 0.482

46. Orthologous genes in animals arise due to

A. Speciation
B. Convergence
C. Divergence
D. Both a and c

47. There are 103 nucleotides in a gene having one intron of 3.4nm and a non-stop codon. How many amino acid residues will be in a peptide on translation

A. 30
B. 40
C. 50
D. 60

48. Which amino acid residues are involved during histone methylation

A. Lysine, threonine
B. Glutamate, arginine
C. Lysine, arginine
D. Serine, threonine

49. Which of the following is true about origin of replication

A. It is a trans-acting site
B. It is called autonomously repeated sequence in yeast
C. It is GC-rich stretch
D. OriC in prokaryotes is about 500bp long

50. Which of the following is used for detection of post-transcriptional modification of proteins

A. Western bloating
B. Northern bloating
C. Southern bloating
D. Eastern bloating

51. Which of the following rRNA act as peptidyl transferases in prokaryotes and eukaryotes respectively

A. 16S,18S
B. 16S,28S
C. 23,5S
D. 23S,28S

52. Which of the following is an initiator codon

A. AUG
B. CUG
C. TUG
D. All of the above

53. Which among the following is cofactor for RNA polymerase

A. Zn2+
B. Mn2+
C. Fe2+
D. Both a and b

54. Which of the following is not related to okazaki fragments

A. DNA ligase
B. DNA polymerase III
C. Lagging strand
D. DNA gyrase

55. Which of the following is the target sequence for EcoRI

A. 5'GAATTC3′ 3'CTTAAG5′
B. 5'GGATCC3′ 3'CCTAGG5′
C. 5'GGCC3′ 3'CCGG5′
D. 5'TCGA3′ 3'AGCT5′

56. First genetically engineered product licensed for human use was

A. A. Somatotropin
B. B-endorphins
C. Thyrotropin
D. Humalin

57. Which of the following vectors is correctly matched according to correct base pairs they can clone

A. Plasmid - 50kb – 250kb
B. Lambda phage – 15kb – 25kb
C. BAC - 300kb
D. YAC - 10kb

58. Which of the following vector is suitable for cloning single-stranded DNA

A. Phage M13
B. λ phage vectors
C. YAC
D. BAC

59. Which of the following is true about pBR322?

A. Most popular plasmid with 4362 bp
B. Bears replication module of E.coli
C. It has ampicillin and tetracycline resistant genes
D. All of the above

60. Star activity is associated with which enzyme

A. DNA polymerase I
B. DNA polymerase II
C. Type II restriction endonucleases
D. DNA polymerase III

61. Which of the following media is used for maturation of oocytes

A. Nutrient Agar
B. TCM-199
C. DMEM F12
D. Both b and c

62. In Intracytoplasmic Sperm Injection (ICSI) the sperm is injected in

A. Nucleoplasm
B. Cytoplasm
C. Perivitelline space
D. None

63. The use or alteration of cells or biochemicals to provide a useful product describes

A. Recombinant DNA technology
B. Transgenic technology
C. Biotechnology
D. Gene targeting

64. Manufacturing recombinant DNA molecules involves cutting a gene from its normal location, inserting it into a circular piece of DNA from a bacterial cell, and then transferring the circle of DNA to cells of another species. Which of the tools below is used to cut the gene from its normal location?

A. Restriction enzyme
B. Plasmid
C. Bacteriophage
D. Vector

65. A complementary DNA (cDNA) version of a gene includes

A. Codons for a mature mRNA
B. Sequences corresponding to promoters.
C. Sequences corresponding to introns.
D. Both B and C

66. ____ consist of recombinant cells containing different fragments of a foreign genome.

A. DNA probes
B. Homologous recombinants
C. Genomic libraries
D. Knockout organisms

67. At isoelectric pH, a mixture of amino acids in solution would be predominantly:

A. Zwitter ions
B. Nonpolar molecules
C. Hydrophilic
D. Positive and monovalent

68. Factors affecting enzyme activity is

A. Temperature
B. pH
C. Concentration
D. All of the these

69. Which of the following is an example of epimers?

A. Mannose & Glucose
B. Glucose & Ribose
C. Galactose & Mannose
D. Glucose & Galactose

70. Arrangement of nucleotides in DNA can be seen using which of the following instruments?

A. Electron microscope
B. Light microscope
C. X-Ray crystallography
D. Ultracentrifuge

71. Which of the following is true about t_m?

A. The higher the content of G ≡ C base pairs, the lower the t_m
B. The higher the content of A = T base pairs, the higher the t_m
C. It can be termed as renaturation temperature
D. The higher the content of G ≡ C base pairs, the higher the t_m

72. Which of the following enzyme is responsible for the conversion of glucose 1-phosphate to glucose 6-phosphate?

A. Epimerase
B. Phosphoglucomutase
C. Glycogen phosphorylase
D. Isomerase

73. Which of the following proteins does not function in cell-cell interaction?

A. Cadherin
B. Cytochrome c
C. Integrin
D. N-CAM

74. Genetic markers are DNA sequences with known locations on the genome that are used to:

A. Diagnose infectious diseases
B. Encode proteins
C. Track genetic variation in populations
D. Identify genes responsible for diseases

75. Single Nucleotide Polymorphisms (SNPs) are variations in a single nucleotide base. They are useful for:

A. Tracking evolutionary relationships between species
B. Identifying genes involved in rare genetic disorders
C. Diagnosing infectious diseases
D. Encoding proteins in the cytoplasm

76. Short Tandem Repeats (STRs) are composed of repeating sequences of DNA. They are commonly used in:

A. DNA replication
B. Paternity testing and forensic analysis
C. Protein synthesis
D. RNA transcription

77. Restriction Fragment Length Polymorphisms (RFLPs) are variations in the length of DNA fragments caused by:

A. Changes in gene expression
B. DNA repair mechanisms
C. Differences in restriction enzyme recognition sites
D. Mutations in protein-coding regions

78. In molecular biology, genetic markers can be used to verify the success of gene transfer experiments. What is the name of the commonly used reporter gene in these experiments?

A. BRCA1 (Breast Cancer 1)
B. PDGF (Platelet-Derived Growth Factor)
C. GFP (Green Fluorescent Protein)
D. CFTR (Cystic Fibrosis Transmembrane Conductance Regulator)

79. Which of the following organisms is a primary producer in marine ecosystems?

A. Shark
B. Phytoplankton
C. Jellyfish
D. Squid

80. What is the function of coral reefs in marine ecosystems?

A. They provide food for large fish
B. They act as habitats for many species
C. They increase ocean acidity
D. They help in the movement of ocean currents

81. What is the main reason mangrove forests are important for marine ecosystems?

A. They regulate ocean currents
B. They help in water desalination
C. They are the main source of food
D. They protect coastlines and support marine life

82. ICAR- Central Institute of Brackishwater Aquaculture is located at?

A. Patna
B. Lucknow
C. Chennai
D. Bhubaneswar

83. NFDB is

A. Nursery of Fisheries Development Board
B. National Forestry Development Board
C. National Fisheries Development Board
D. Notable Fisheries Development Board

84. This is a characteristic feature of fishes

A. Gills and epidermal scales
B. Tail and epidermal scales
C. Gills and venous heart
D. Venous heart and tail

85. Function of NaCl in fish preservation is _____.

A. Reduce moisture
B. Plasmolysis of bacteria cell
C. Preservative action
D. All the above

86. How can marine biotechnology contribute to environmental conservation?

A. Creating artificial marine habitats
B. Using marine organisms for pollution remediation
C. Developing genetically modified marine organisms
D. Introducing non-native species for biodiversity enhancement

87. What is the significance of marine biotechnology in aquaculture?

A. Developing sustainable fish farming practices
B. Recreational fishing
C. Enhancing marine biodiversity
D. Improving water quality

88. Which of the following is used for concentration of aqueous extracts of marine bioactive compounds?

A. Vacuum separation
B. Freeze-drying
C. Boiling
D. Crystallization

89. Which is a promoter from zebrafish?

A. GAP43
B. Heat shock protein 70^{b}
C. β-actin
D. β-tubulin

90. Gain-of function, reporter-function and loss-of-function are the types of _____

A. Transgenes
B. Electroporation methods
C. Reporter genes
D. Enhancer elements

91. Luciferase and cameleon are examples of _____

A. Transgenes
B. Enhancers
C. Exons
D. Reporter gene

92. Sulfated polysaccharides are produced mainly by the rhodophyceae (red algae) and _____

A. Zooplankton
B. Phaeophyceae
C. Cyanophyceae
D. Chlorophyceae

93. Which of the following statements is true regarding the "law of segregation"?

A. Segregation of factors is due to the segregation of chromosomes during meiosis
B. Law of segregation is the law of purity of genes
C. Alleles separate from each other during gametogenesis
D. All of the above

94. An exception to Mendel's law is-

A. Linkage
B. Independent assortment
C. Purity of gametes
D. Dominance

95. Cystic fibrosis is-

A. Autosomal dominant disorder
B. Sex-linked recessive disorder
C. Sex-linked dominant disorder
D. Autosomal recessive disorder

96. Test use for diagnosis of brucellosis in cattle.

A. Milk Ring Test-MRT
B. Coagulation test
C. Hensa test
D. Gmelin test.

97. Constant present of a disease or organism in a community-

A. Epidemic
B. Sporadic
C. Endemic
D. Panzootic

98. Which blood vessel does NOT bring deoxygenated blood directly to the heart?

A. Pulmonary vein
B. Coronary Sinus
C. Inferior Vena cava
D. Superior Vena Cava

99. The precursor of ketone body is-

A. Acetyl CoA
B. Acetoacetic acid
C. Betahydroxybutyric acid
D. Cholesterol

100. The enzyme used to remove phosphate group at the 5' end of DNA molecule is:

A. Alkaline phosphatase
B. Polynucleotide kinase
C. Terminal deoxytransferase
D. Topoisomerase

ROUGH WORK