



ADAT - 2017

(Aditya Degree Admission Test, a compulsory exam for admission into 3 years degree course)



ADITYA DEGREE COLLEGES

KAKINADA :: RAJAHMUNDRY :: VISAKHAPATNAM :: PALAKOL

Time : 3hrs

Max Marks :100

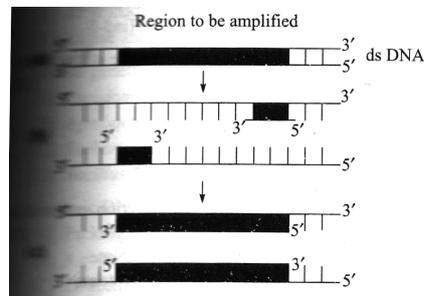
- Instructions:** 1. There will be 5 Sections- Botany, Zoology, Chemistry, Aptitude & Softskills.
2. Each section consists of 20 bits & each bit carries 1 Mark.
3. Each wrong answer entails 1/4 negative marking.

SECTION - A (BOTANY)

- The term taxonomy was introduced by
1. Huxley 2. De Candolle 3. Bentham and Hooker 4. Linnaeus
- Select the correct statement.
a. Methanogens are archaebacteria which produce methane in marshy areas.
b. Nostoc is a filamentous BGA which fixes atmospheric N_2 .
c. Chemosynthetic autotrophic bacteria synthesize cellulose from glucose.
d. Mycoplasma lack cell wall and can survive without oxygen.
1. b, c 2. a, b, c 3. b, c, d 4. a, b, d
- The main difference between Gram positive and Gram negative bacteria is
1. Ribosome 2. Mitochondria 3. Cell membrane 4. Cell wall
- Fucus shows which type of life-cycle?
1. Haplontic 2. Diplontic 3. Haplo-diplontic 4. Isomorphic
- Pulvinate leaf base is found in
1. Lycopersicum 2. Trifolium 3. Nicotiana 4. Petunia
- Lateral meristems are
1. Phellogen and procambium 2. Procambium and dermatogens
3. Fascicular cambium and procambium 4. Fascicular cambium and cork cambium
- The size of mitochondria in plant cell is
1. 3.0-4.0 μ m long 2. 2-4 μ m long 3. 1-4 μ m long 4. 01-1.0 μ m long
- Loss of water in C_4 plants as compared to C_3 plants for the same amount of CO_2 fixed is
1. Double 2. One third 3. One fourth 4. Half
- Product of photorespiration is
1. Phosphoglycerate 2. Erythrose 4-phosphate
3. Dihydroxy acetone 3-phosphate 4. All the above.
- In Krebs' cycle, second decarboxylation occurs during
1. Pyruvate \rightarrow Acetyl CoA 2. α -Ketoglutarate \rightarrow Succinyl CoA
3. Oxalosuccinic acid \rightarrow α -ketoglutarate 4. Malic acid \rightarrow Fumaric acid.
- Element present in middle lamella is
1. Zn 2. Cu 3. Ca 4. K
- Cohesion theory of ascent of sap was proposed by
1. Munch 2. Stephen Hales 3. Dixon and Joly 4. Bose



13. *Strobilanthus kunthiana* flowered in the Nilgiri in 2006. When is it expected to flower again
1. 2015 2. 2018 3. 2021 4. 2024
14. Tapetum occur in
1. Anther wall 2. Ovary wall 3. Male gametophyte 4. Female gametophyte
15. In the cross $YYRR \times yyrr$, the number of green coloured seeds in F_2 generation is
1. 8/16 2. 6/16 3. 4/16 4. 2/16
16. Which is not a salient feature of genetic code?
1. Ambiguous 2. Universal 3. Specific 4. Degenerate
17. In the three steps (a, b, c) of polymerase chain reaction, select the correct step.



1. c-extension in presence of heat stable DNA polymase
2. a-annealing with two sets of primers
3. b-denaturation at high temperature
4. a-denaturation at 50°C
18. Bacterium commonly used in plant genetic engineering is
1. *Agrobacterium* 2. *Corynebacterium* 3. *Bacillus subtilis* 4. *Salmonella typhi*
19. Golden rice is a genetically modified crop plant where the incorporated gene is meant for biosynthesis of
1. Vitamin C 2. Omega 3 3. Vitamin A 4. Vitamin B
20. *Trichoderma harzianum* is useful for
1. Gene transfer in higher plants
2. Biological control of soil borne pathogens/biopesticide
3. Bioremediation of contaminated soils
4. Reclamation of waste land

SECTION - B (ZOOLOGY)

21. The chordate feature exhibited by *Balanoglossus*
1. Post anal tail 2. Endostyle 3. Stomochord 4. Branchial respiration
22. A: Sub species of a species can produce fertile offspring when they are interbred
R: Sub species are geographically isolated but not reproductively isolated
1. Both A and R are true and R is correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false 4. A is false but R is true
23. Larval form of turbellarians
1. Mullers 2. Cydippid 3. Planula 4. Tornaria
24. Milk sugar is
1. Lactose 2. Glucose 3. Galactose 4. Sucrose



25. The disease caused by coelozoic, enterozoic, endoparasite that completes its life cycle in a single host
1. Malaria 2. Ascariasis 3. Filariasis 4. Amoebiasis
26. The thickening of the wall of bile duct of sheep by Fasciola is called as
1. Neoplasia 2. Hyperplasia 3. Gigantism 4. Hypertrophy
27. Trisomy on the 21st pair is
1. Down syndrome 2. Edwards syndrome 3. Patau syndrome 4. Cri-du-chat syndrome
28. Bird flu is caused by
1. H5N1 virus 2. H4N1 virus 3. H3N1virus 4. H2N1 virus
29. Smoking increases the risk of heart related disorders in a sequence
A. Ischemia B. Atherosclerosis C. Myocardial infarction D. Smoking
Arrange the above in correct order of effect of smoking
1. DBAC 2. DBCA 3. DABC 4. DCBA
30. The clotting factor not produced by liver
1. Prothrombin 2. Proconvertin 3. Proaccelerin 4. Stuart - prower Factor
31. A longitudinal row of kinetosomes and their cord of fibres called kinetodesmata are together termed as
1. Kinyty 2. Kinetodesmal fibrils 3. Infra ciliary system 4. Neuromotor system
32. A : Ascaris lumbricoides an intestinal parasite of man lives as a facultative anaerobe
R : It cannot respire anaerobically in the absence of oxygen
1. Both A and R are true and R is correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false 4. A is false but R is true
33. One of the following is not a character of water conservation in periplanata
1. Chitinous cuticle with outer waxy coat
2. Chitinous porus peritrophic membrane around the food bolus
3. Elimination of most of the CO₂ through arthrodial membrane
4. Six longitudinal folds called rectal papillae
34. Transitional epithelium is found in the wall of
1. Trachea 2. Oesophagus 3. Bronchioles 4. Urinary bladder
35. Nitrates present in the soil are reduced to nitrogen by the following
1. Nitrosomonas - Thiobacillus 2. Pseudomonas - Nitrosococcus
3. Nitrosococcus - Nitrosomonas 4. Thiobacillus - Pseudomonas
36. Mammals living in a colder climate have smaller surface area but their counter parts in warmer climate have larger surface area but without changing the body volume is
1. Allen's rule 2. Bergman's rule 3. Van's Hoff's rule 4. Gause principle
37. Arrange the following in descending order in relation to their number
a. Lymphocytes b. Thrombocytes c. Esinophils d. Erythrocytes
e) Monocytes
1. d - b - a - e - c 2. b - d - e - a - c 3. e - c - d - b - a 4. d - a - b - c - e
38. Blood circulation between the lower parts of the body and kidneys in the frog constitutes
1. Renal portal system 2. Hepatic portal system
3. Hypophyseal portal system 4. Lymphatic system



39. The triangular bone present on the floor of nasal cavity is
1. Palatine 2. Vomer 3. Zygomatic 4. Lacrimal
40. The lactic acid produced by the muscle is converted into glucose / glycogen through pyruvic acid formation in the liver is called
1. Cori cycle 2. Bohr effect 3. Hamberger's phenomenon 4. Haldane effect

SECTION - C (CHEMISTRY)

41. Electron is discovered by
1. Rutherford 2. J.J.Thomson 3. James Chadwick 4. Stoney
42. According to Molecular Orbital Theory, O_2 is paramagnetic because of presence of
1. Two unpaired electrons 2. Three unpaired electrons
3. One unpaired electron 4. zero unpaired electron
43. Which of the following is called inorganic benzene
1. Borazole 2. chlorobenzene 3. boracyclohexane 4. cyclohexane
44. The value of Plank's constant is
1. 6.625×10^{-27} erg sec 2. 66.25×10^{-26} erg sec
3. 662.5×10^{-27} erg sec 4. 6.625×10^{-34} erg sec
45. In the titration of $KMnO_4$ and Mohr's salt, the indicator used is
1. methyl orange 2. phenolphthalein 3. diphenylamine 4. self indicator
46. $PV=nRT$ is
1. Charles Law 2. Ideal gas equation 3. Boyle's Law 4. Avagadro's Law
47. Propene on addition of HBr gives
1. Propane 2. 2-Bromo Propane 3. 1-Bromo Propane 4. propanol
48. Hybridisation of carbon in methyl carbanion is
1. SP^3 2. SP^3d^2 3. SP^2 4. SP^3d
49. The oxidation number of oxygen in peroxides and superoxides respectively are
1. +1, -1/2 2. +1, +1/2 3. -1, -1/2 4. -1, +1/2
50. E° of hydrogen electrode is
1. 1 2. -1 3. +1 4. 0
51. Which element is stored in water
1. P 2. Al 3. C 4. N
52. H_2SO_4 is called
1. Oil of Vitriol 2. Musturd Oil 3. Oil of winter green 4. Oil of Mirbane
53. In an electrolytic cell current flows from
1. cathode to anode 2. anode to cathode 3. does not flow 4. none
54. Example of electron deficient compound
1. methane 2. acetic acid 3. diborane 4. sulphuric acid.
55. Laughing gas is
1. NO_2 2. N_2O_3 3. N_2O 4. N_2O_5
56. Which of the following give methane on hydrolysis
1. CaC_2 2. Al_4C_3 3. BN 4. all
57. Proton is identical with
1. H 2. H^- 3. H^+ 4. He
58. Benzene diazonium chloride react with CuCN and produce
1. Phenol 2. Phenyl cyanide 3. Benzene 4. Phenyl Isocyanide
59. Baeyer's reagent is
1. Aq. Br_2 solution 2. acidic $KMnO_4$ 3. alkaline $KMnO_4$ 4. neutral $KMnO_4$
60. The general electronic configuration of P - block elements
1. nS^2nP^1 2. nS^2nP^2 3. nS^2nP^{1-5} 4. nS^2nP^{1-6}

SECTION - D (APTITUDE)

61. In a code FLAUNT is written as DNYWLTV, then how will WAGONG be written
1. UYEMLO 2. YCLQPU 3. CYEPQU 4. UCEQLI
62. BDFH : JNLP :: CEGI :-
1. HIJK 2. EGJL 3. KMOQ 4. KLPQ
63. Which one does not belong to the same group
1. Tomato 2. Turmeric 3. Potato 4. Carrot
64. Which one does not belong to the same group
1. 31 2. 41 3. 81 4. 71



65. Complete the series DF,GJ,KM,NQ,RT,_____
1. UW 2. UX 3. YZ 4. XZ
66. A is the brother of B. C is the mother of B. M is the sister of C. How is M related to B.
1. Nephew 2. Niece 3. Uncle 4. Aunt
67. If P means \times , R means \div , M means $-$, and W means $+$ then find the value of $20R 5 W12 M3 P4$
1. 4 2. 16 3. 28 4. 52
68. Amar walked 30 meters toward south, turned left and walked 50 meters, again he turned left and walked 30 meters. How far is he from the starting point.
1. 80 meters 2. 100 meters 3. 50 meters 4. 130meters
69. Which of the following does not belong to the same group
1. Blue 2. Red 3. Violet 4. Grey
70. BELOW is related to OBWEL in the same way as DRAFT is related to _____
1. ARTDF 2. FDART 3. DFTRA 4. FDTRA
71. A car covers a distance of 576 kms in 12 hours what is the speed of the car.
1. 54kmph 2. 62 kmph 3. 46 kmph 4. 46 kmph
72. There are 1825 employees in an organization out of which 64% are transferred to different places. How many employees are transferred
1. 1054 2. 1168 3. 1490 4. 1263
73. Find the average of 354,281,623,518
1. 444 2. 454 3. 446 4. 464
74. A canteen requires 28 kgs of sugar for one week. How many kgs of sugar is required for the months of March and April.
1. 248kgs 2. 274 kgs 3. 244 kgs 4. 232 kgs
75. In an examination Jyothi scored a total of 520 marks out of 800. What is the percentage she got
1. 55 2. 65 3. 75 4. 69
76. 15 men can complete a work in 4 days. In how many days will 20 women complete the same work.
1. 2 2. 4 3. 5 4. 3
77. 46% of a member is 1426. What is the number
1. 3100 2. 2550 3. 3475 4. 4200
78. A shop keeper buys 5 bangles for Rs. 8880 and later sell them for Rs 9875. How much profit he makes for one bangle.
1. Rs 205 2. Rs 199 3. Rs 213 4. Rs 191
79. What least number is to be added to 8888 to make it a perfect square.
1. 137 2. 52 3. 112 4. 90
80. The average of 4 consecutive even numbers A,B,C and D is 45. What is the product of A and C.
1. 2025 2. 1848 3. 1932 4. 2016

SECTION - E (SOFT SKILLS)

Directions: Read the following passage carefully, identify the correct answer to each of the following questions and mark the corresponding letter as your answer.

Crude mineral oil comes out of the earth as a thick brown or black liquid with a strong smell. It is a complex mixture of many different substances, each with its own individual qualities. Most of them are combinations of hydrogen and carbon in varying proportions. Such hydrocarbons are also found in other forms such as bitumen, asphalt and natural gas. Mineral oil originates from the carcasses of tiny animals and from plants that live in the sea. Over millions of years, these dead creatures form large deposits under sea-bed and ocean currents cover them with a blanket of sand and silt. As this material hardens, it becomes sedimentary rock and effectively shuts out the oxygen, so preventing the complete decomposition of the marine deposits underneath. The layers of sedimentary rock become thicker and heavier. Their pressure produces heat, which transforms the tiny carcasses into crude oil in a process that is still going today.

81. Marine deposits under the sea do not get decomposed because they:
1. Become rock and prevent oxygen from entering them
 2. Are covered by the sand and silt brought by the current
 3. Contain a mixture of hydrogen and carbon
 4. Are constantly washed by the ocean current



82. Sedimentary rock leads to the formation of oil deposits because :
1. It becomes hard and forms into rocks which produce oil.
 2. Its pressure produces heat and turns the deposits of animal carcasses and plants into oil
 3. It turns heavy and shuts out the oxygen
 4. It becomes heavy and hard, and applies pressure to squeeze oil
83. In order to heavy mineral oil, hydrogen and carbon are combined in:
1. Equal proportions
 2. Fixed proportions
 3. Varying proportions
 4. The proportion of two and one
84. The time it takes for the marine deposits to harden into rock is :
1. A few years
 2. Thousands of years
 3. Hundreds of years
 4. Millions of years

FILL IN THE BLANKS

Directions: choose the appropriate word to fill in each of the following blanks and mark the corresponding letter as your answer.

Articles:

85. He went to.....college to meet.....class teacher.
1. a,an
 2. an,the
 3. the, the
 4. a & no article
86.European woman came to America.
1. a
 2. an
 3. the
 4. no article

Prepositions:

87. In General, acids act Metals
1. on
 2. in
 3. by
 4. with
88. He fell the tree an axe
1. On
 2. in
 3. by
 4. with

Conjunctions:

89. A student will fail he does not work hard
1. Because
 2. if
 3. until
 4. though
90. He was late It was raining heavily
1. While
 2. after
 3. when
 4. because

Tenses:

91. He always To prove that the earth revolves round the sun
1. Tried
 2. Tries
 3. was trying
 4. is trying
92. I was watching TV when she In
1. Comes
 2. Came
 3. come
 4. was coming

Correction of sentences

Directions: Identify the part containing the error in each of the following sentences and mark the corresponding letter as your answer.

93. Her and the (1) other members of the group (2) spoke to the person (3) after their final victory (4)
94. When she comes (1) to see us (2) she usually will bring (3) something with her (4)
95. . I did not want (1) him to have spent (2) all the money at (3) the fair yesterday
96. . He picked up (1) the books (2) and put it (3) on the table (4)

Vocabulary:

Directions: Choose the correct synonym to each of the following words. and the mark the corresponding letter as your answer.

97. absurd
1. Ridiculous
 2. correct
 3. clear
 4. wise
98. Bewilder
1. happier
 2. Perplex
 3. rational
 4. gently

Directions:

Choose the correct Antonym to each of the following words and the mark the corresponding letter as your answer.

99. Renounce
1. Denounce
 2. Allow
 3. Follow
 4. Permit
100. Boon
1. Bless
 2. Bane
 3. Gift
 4. Accept

* * * * *

