



ADAT - 2017

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



ADITYA DEGREE COLLEGES

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Time : 2hrs

Max Marks :100

- Instructions:** 1. There will be 5 Sections- Mathematics, Economics, Commerce, 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 (MATHEMATICS)

1. The range of the function $f(x) = \frac{x}{1+x^2}, x \in R$
1. $(-\infty, \infty)$ 2. $[-1, 1]$ 3. $[-\frac{1}{2}, \frac{1}{2}]$ 4. $[-\sqrt{2}, \sqrt{2}]$
2. If Z is a complex number of unit modulus and argument θ , then $\arg \left[\frac{1+z}{1+\bar{z}} \right] =$
1. $-\theta$ 2. $\frac{\pi}{2} - \theta$ 3. θ 4. $\pi - \theta$
3. The minimum value of $4^x + 4^{1-x}, x \in R$ is
1. 2 2. 4 3. 1 4. 0
4. The number of solutions of the equation $\sin 2x - 2 \cos x + 4 \sin x = 4$ in the interval $[0, 5\pi]$
1. 3 2. 5 3. 4 4. 6
5. In a ΔABC , if $\angle A = 90^\circ$, then $\cos^{-1} \left(\frac{R}{r_2 + r_3} \right)$ is
1. 90° 2. 30° 3. 60° 4. 45°
6. The number of 3×3 non-singular matrices with four entries as 1 and all other entries as 0, is
1. less than 4 2. 5 3. 6 4. at least 7
7. The term independent of x in the expansion of $\left(3x - \frac{2}{x^2} \right)^{15}$ is
1. $-3003 (3^{10}) (2^5)$ 2. $-3003 (3^{10}) (2^4)$ 3. $3003 (3^{10}) (2^5)$ 4. None
8. The number of ways in which an examiner can assign 30 marks to 8 questions giving not less than 2 marks to any questions is
1. 108120 2. 124320 3. 116280 4. 144240
9. The number of sides of polygon having 90 diagonals
1. 14 2. 15 3. 16 4. 17
10. If 4 people are chosen at random, then find the probability that no two of them were born on the same day of the week
1. $\frac{{}^7C_4}{7^4}$ 2. $\frac{{}^7P_4}{7^4}$ 3. 7C_4 4. 7P_4



11. Let $f: \mathbb{R} \rightarrow \mathbb{R}$ be a positive increasing functions with $\lim_{x \rightarrow \infty} \frac{f(3x)}{f(x)} = 1$, then $\lim_{x \rightarrow \infty} \frac{f(2x)}{f(x)} =$
1. $\frac{2}{3}$ 2. $\frac{3}{2}$ 3. 3 4. 1
12. $\sqrt{42 + \sqrt{42 + \sqrt{42 + \dots}}} =$
1. -6 2. 5 3. $\sqrt{43}$ 4. 7
13. The maximum value of $f(x) = (x-2)^2(x-3)$
1. 2 2. 4 3. -4 4. 0
14. The reflection of $y = \sqrt{x}$ w.r.t y - axis is
1. $y = -\sqrt{x}$ 2. $y = \sqrt{-x}$ 3. $y = -\sqrt{-x}$ 4. $x = \sqrt{y}$
15. The point on the line $3x - 2y = 1$ which is close to the origin
1. $\left(\frac{3}{13}, \frac{2}{13}\right)$ 2. $\left(\frac{5}{11}, \frac{2}{11}\right)$ 3. $\left(\frac{3}{5}, \frac{2}{5}\right)$ 4. $\left(\frac{3}{13}, \frac{-2}{13}\right)$
16. The triangle PQR is inscribed in the circle $x^2 + y^2 = 25$, If $Q = (3,4)$ and $(-4,3)$ then $\angle QPR =$
1. $\frac{\pi}{2}$ 2. $\frac{\pi}{3}$ 3. $\frac{\pi}{4}$ 4. $\frac{\pi}{6}$
17. The length of the latusrectum of a conic is 5. If focus is $(-1,1)$ and its directrix is $3x - 4y + 2 = 0$ then conic is
1. Parabola 2. Ellipse 3. Hyperbola 4. Rectangular hyperbola
18. SP^1 is focal chord of the Ellipse $4x^2 + 9y^2 = 36$, If $SP = 4$ then $SP^1 =$ -----
1. $\frac{2}{3}$ 2. $\frac{3}{5}$ 3. $\frac{4}{3}$ 4. $\frac{4}{5}$
19. The value of $\int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \frac{\sin^2 x}{1+2^x} dx =$
1. π 2. $\frac{\pi}{2}$ 3. 4π 4. $\frac{\pi}{4}$
20. If f and g are differentiable functions in $(0,1)$ satisfying $f(0) = 2 = g(1)$ $g(0) = 0$ and $f(1) = 6$ then for some $c \in (0,1)$
1. $2 f^1(c) = g^1(c)$ 2. $2 f^1(c) = 3g^1(c)$ 3. $f^1(c) = g^1(c)$ 4. $f^1(c) = 2g^1(c)$

SECTION - B (ECONOMICS)

21. Who of the following is called "Father of Economics"
1. Adam smith 2. Marshall 3. Jacobviner 4. Ricardo
22. "Principles of Economics" was written by
1. Robbins 2. Adam smith 3. Marshall 4. J.R.Hics
23. Who expressed the view that "Economics is neutral between ends"?
1. Marshall 2. Robbins 3. Samuelson 4. Pigou
24. India is a best example of:
1. Capitalist economy 2. Socialist economy 3. Mixed economy 4. None of the above
25. Which of the following pairs of goods is an example of substitutes?
1. Tea and Sugar 2. Shirt and Trousers 3. Car and Petrol 4. Tea and Coffee



26. Utility analysis was developed by
1. J.R. Hicks and RGD Allen 2. Marshall 3. Robertson 4. Samuelson
27. Elasticity of demand is zero means
1. Perfectly elastic demand 2. Relatively elastic demand
3. Relatively inelastic demand 4. Perfectly inelastic demand
28. Food, clothing and shelter are the example for:
1. Necessaries 2. Comforts 3. Luxuries 4. None
29. Marginal utility of a good can be calculated with which of the following formula
1. $TU_n - TU_{n-1}$ 2. $\frac{\Delta TU}{\Delta Q}$ 3. both (a) and (b) 4. $TU_n + TU_{n-1}$
30. _____ Shows various combinations of two goods that give same amount of satisfaction to the consumer
1. Isocost curve 2. Marginal utility curve 3. Indifference curve 4. Isoquant
31. The Law of equi- marginal utility is also known as :
1. Law of diminishing returns 2. Indifference curve analysis
3. Law of Substitution 4. None
32. In India, economic reforms were introduced in the year
1. 1990 2. 1991 3. 1992 4. 1993
33. _____ is the apex bank for agriculture credit in India
1. ICICI 2. RBI 3. SIDBI 4. NABARD
34. In India disguised unemployment is found in
1. Agriculture 2. Industry 3. Services 4. None
35. Which of the following agency in India is responsible for computation of national income?
1. RBI 2. NSSO 3. CSO 4. NCAER
36. Which of the following sector is the major contributor to the national income of India
1. Agriculture 2. Industry 3. Service 4. both (2) and (3)
37. At present, India occupies _____ rank in the world population
1. 1st 2. 2nd 3. 3rd 4. 4th
38. Green Revolution is also known as:
1. Wheat revolution 2. Rice revolution 3. Maize revolution 4. Forest revolution
39. Abolition of intermediaries and tenancy reforms are both parts of :
1. Industrial sector reforms in India 2. Land reforms in India
3. Banking reforms in India 4. None
40. Per capita national income means
1. $NNP \div \text{Population}$ 2. $\text{Population} \div NNP$
3. $\text{Total capital} \div \text{Population}$ 4. both (2) and (3)

SECTION - C (COMMERCE)

41. _____ is a person who organise, operate and assumes the risk for a business venture
1. Doctor 2. Trader 3. Business man 4. Entrepreneur
42. Introduction of a new methods in the process of production or introducing improvements in the existing methods is called _____
1. Production 2. Innovation 3. Introduction 4. Risk taking
43. Name the process which involves "Thinking before doing"?
1. Planning 2. Organising 3. Staffing 4. Directing
44. Who acts as a last link in the chain of distribution of goods?
1. Wholesaler 2. Retailer 3. Customer 4. Government
45. When goods are imported for exporting them to a third country, it is known as _____
1. Export trade 2. Import trade 3. Unfair trade 4. Entrepot trade



46. Expand the term 'WAP'
1. Water and Air Pollution
2. Wireless Application protocol
3. Wireless added phone
4. None
47. 'Subrogation' is also known as _____
1. Doctrine of substitution
2. Doctrine of enrichment
3. Doctrine of caveat emptor
4. None
48. Purchasing more than one policy for the same subject is known as _____
1. Re - insurance
2. Double insurance
3. Endowment policy
4. Whole life policy
49. Commerce = _____
1. Trade + aids to trade
2. Industry + Trade
3. Business + Industry
4. None
50. What is the pecuniary Jurisdiction of National Commission of India.
1. below Rs 50,00,000
2. above Rs 1 Crore
3. above Rs 50,00,000
4. above Rs. 10,00,000
51. From accounting point of view business is different from its _____
1. Assets
2. Liabilities
3. Proprietor
4. None
52. Pick the odd one out
1. Machinery a/c
2. Salary a/c
3. Furniture a/c
4. Trade marks a/c
53. Normally, _____ types of subsidiary Books are used in a business
1. Four
2. Six
3. Eight
4. Ten
54. A furniture dealer purchased furniture from X & Co, for the business is entered in _____
1. Furniture book
2. Purchase book
3. Dealer book
4. None
55. In _____ system, the chief cashier makes the reimbursement of the amount spent by the petty cashier.
1. Cash system
2. Petty cash system
3. Imprest system
4. None
56. In Bank Reconciliation statement starting with Pass Book overdraft balance, direct payment by a bank as per standing instructions will be _____
1. Added
2. Deducted
3. Ignored
4. Deducted twice.
57. Good will is _____
1. Current Asset
2. Tangible Asset
3. Intangible Asset
4. Fictitious Asset
58. When various item of assets and liabilities are shown in an order, it is called.
1. Liquidity
2. Permanency
3. Grouping
4. Marshalling
59. Best presentation of abnormal loss in final accounts is
1. Deduct from purchases
2. Added to Purchases
3. Shown as a separate item in debit side of Trading a/c
4. Shown as a separate item in credit side of Trading a/c
60. A claim which can be enforced against the assets of the firm in the court is called _____
1. Assets
2. Equity
3. Liabilities
4. None
- SECTION - D (APTITUDE)**
61. It is a certain code CAPITAL is coded as FZSHWZO then how LABOUR is coded in the same code
1. OZENXQ
2. OZEMWQ
3. OEZXNQ
4. OZMEQW
62. DPGJ : MPQS :: KNENQ : _____
1. RFUFX
2. RXUXF
3. TFWWZ
4. RFXFU
63. 36 : 216 :: 81 : _____
1. 729
2. 629
3. 319
4. 826
64. Pick out the different word
1. Owl
2. Parrot
3. Hawk
4. Eagle
65. Complete the series 24,60,120,210, _____
1. 300
2. 336
3. 420
4. 525
66. A is son of B. C is the brother of A, D is the son of C. How is A related to D.
1. Grandfather
2. Father
3. Uncle
4. Aunt



67. Arun travels 8km towards North, turns left and travels 3 km, then he turns right and travels 4 km then right and travels 3km. How far is he from starting point.
1. 18 km 2. 15km 3. 11 km 4. 12km
68. If 9th of month falls on the day preceding Sunday, on what day will 1st of the month fall.
1. Friday 2. Saturday 3. Sunday 4. Monday
69. If P means "division" : R means addition : T means subtraction : V means Multiplication then find the value of $12V \ 4R \ 16P8T6$.
1. 44 2. 50 3. 28 4. 72
70. Which of the following does not belong to the group
1. 52 2. 70 3. 68 4. 28
71. Find the average of 593, 477, 322, 609, 284
1. 495 2. 549 3. 459 4. 594
72. If an amount of Rs. 90792 is distributed equally among 97 persons how much amount would each person get
1. Rs 916 2. Rs 936 3. Rs 956 4. Rs 976
73. 74 % of a number is 1406. What is the number
1. 1750 2. 1800 3. 1850 4. 1900
74. A canteen requires 28 dozens of bananas for a week. How many dozens of Bananas will it require for 47 days.
1. 6399 2. 3964 3. 2256 4. 4216
75. What is the largest number to be added to 7700 to make it a perfect square
1. 131 2. 44 3. 77 4. 98
76. Sumit invests Rs 4762 which is 25% of his monthly income, in insurance policy. What is his monthly income.
1. Rs 28,572 2. Rs. 23,810 3. Rs 19,048 4. 14,285
77. One seventh of a number is 50 what will be 64% of that number
1. 224 2. 238 3. 198 4. 328
78. The difference between 58% of a number and 39% of the same number is 247. What is 62% of the number
1. 1300 2. 806 3. 754 4. 1170
79. There are 15 dozen candles in a box, if there are 39 such boxes, how many candles are there
1. 7020 2. 6660 3. 6552 4. 3510
80. The average of 5 consecutive even numbers A, B, C, D and E is 52. What is the product of B and E
1. 2916 2. 2988 3. 3000 4. 2800

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 to your answer.

Regular physical activity provides numerous health benefits from leaner bodies and lower blood pressure to improved mental health and cognitive functioning. As the school physical education programme promotes physical activity and can teach skills as well as from or change behavior, it holds an important key to influencing health and well-being across the life span. To improve the fitness of students, we need to rethink the design and delivery of school-based physical education programme. Adults in the United States think that information about health was more important for students to learn the content in language arts, mathematics, science, history or any other subject. Despite this high ranking, most schools devote minimal curriculum time to teaching students how to lead healthy lives. Our first step might be to consider ways to increase curriculum time devoted to physical education. In addition, schools need to thoughtfully analyse the design and delivery of school physical education programme to ensure that they are engaging, developmentally appropriate, inclusive and instructionally powerful.

81. According to this passage, regular physical activity is needed to :
1. Control one's blood pressure 2. Lose one's weight
3. Improve one's cognitive skills 4. Improve one's physical as well as mental health



82. In order to tone up the physical education programme:
1. It should be made compulsory at school
2. As assement of the existing programme should be made
3. A committee should be setup in every school
4. The programme should be reoriented and implemented
83. According to the Americans , health education is more important than teaching:
1. social sciences 2. liberal arts 3. any subject 4. natural sciences
84. the author wants the reoriented physical education programme to be :
1. given minimal curriculum time 2. very comprehensive
3. Relevant to the modern society 4. Thoughtful

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 is ----- honest person.
1. A 2. an 3. the 4. no article
86. Have you found ----- purse you lost yesterday.
1. A 2. an 3. the 4. no article

Prepositions:

87. An epidemic broke ----- in the town last year.
1. Out 2. down 3. up 4. on
88. The cat ran ----- the mouse.
1. After 2. upon 3. on 4. up

Conjunctions:

89. He could not get the prize----- she tried hard for it.
1. Yet 2. though 3. but 4. when
90. She tried her best ----- she couldn't succeed.
1. Besides 2. incase 3. however 4. nevertheless

Tenses:

91. Someone ----- away my bike with in an hour.
1. Takes 2. took 3. has taken 4. had taken
92. By july 2005,she ----- in this firm for eleven years.
1. Will work 2. will have been working 3. will be working 4. has been working

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. I am not hungry (A)/beside (B)/ I do not like eggs (C)/All correct. (D)
1. A 2. B 3. C 4. D
94. Of the two proposals (A)/ we think(B)/ the second is (C)/ the most attractive.(D)
1. A 2. B 3. C 4. D
95. Some peoples (A)/ feel that (B)/ no progress is possible (C)/ without discipline. (D)
1. A 2. B 3. C 4. D
96. I went to the librarian and cashier (A)/ and they gave me (B)/ all facilities required (C)/ to complete the project.(D)
1. A 2. B 3. C 4. D

Vocabulary:

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

97. Exquisite
1. Elegant 2. Ugly 3. Dark 4. Clear
98. Obsolete
1. Antiquated 2. fashionable 3. present 4. Recent

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

99. Foreign
1. Country 2. native 3. local 4. citizen
100. Expedite
1. Impede 2. exclude 3. add 4. delete

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