

(For candidates admitted from 2016–2017 onwards)

U.G. DEGREE EXAMINATION, NOVEMEBR 2022.

Part IV — Mathematics — Non-Major Elective

QUANTITATIVE APTITUDE — I

Time : Three hours

Maximum : 75 marks

Answer ALL questions.

Multiple choice questions :

(75 × 1 = 75)

1. $5978 + 6134 + 7014 = ?$

- (a) 16226 (b) 19126
(c) 19216 (d) 19226

2. The value of 112×5^4 is

- (a) 6700 (b) 70000
(c) 76500 (d) 77200

3. The total number of even prime number is

- (a) 0 (b) 1
(c) 2 (d) None of these

4. $\frac{(856 + 167)^2 + (856 - 167)^2}{856 \times 856 + 167 \times 167}$ is equal to

- (a) 1 (b) 2
(c) 689 (d) 1023

5. The sum of first 45 natural number is

- (a) 1035 (b) 1280
(c) 2070 (d) 2140

6. Which of the following has most number of divisors?

- (a) 99 (b) 101
(c) 176 (d) 182

7. Reduce $\frac{128352}{238368}$ to its lowest form
- (a) $\frac{3}{4}$ (b) $\frac{5}{13}$
- (c) $\frac{7}{13}$ (d) $\frac{9}{13}$
8. The HCF of 204, 1190 and 1445 is
- (a) 17 (b) 18
- (c) 19 (d) 21
9. The L.C.M. of $\frac{1}{3}, \frac{5}{6}, \frac{2}{9}, \frac{4}{27}$ is
- (a) $\frac{1}{54}$ (b) $\frac{10}{27}$
- (c) $\frac{20}{3}$ (d) None of these
10. Three numbers are in the ratio of 3 : 4 : 5 and their L.C.M. is 2400. Their H.C.F. is
- (a) 40 (b) 80
- (c) 120 (d) 200
11. The difference between a number and its three-fifth is 50. What is the number?
- (a) 75 (b) 100
- (c) 125 (d) None of these
12. A number is doubled and 9 is added. If the resultant is trebled, it becomes 75. What is that number?
- (a) 3.5 (b) 6
- (c) 8 (d) None of these
13. The sum of two numbers is 25 and their difference is 13. Find their product
- (a) 104 (b) 114
- (c) 315 (d) 325

14. The product of two fractions is $\frac{14}{15}$ and their quotient is $\frac{35}{24}$. The greater fraction is
- (a) $\frac{4}{5}$ (b) $\frac{7}{6}$
- (c) $\frac{7}{4}$ (d) $\frac{7}{3}$
15. The sum of three consecutive numbers is 87. The greatest among these three numbers is
- (a) 26 (b) 28
- (c) 29 (d) 30
16. The fraction $101\frac{27}{100000}$ in decimal form is
- (a) .01027 (b) .10127
- (c) 101.00027 (d) 101.000027
17. What decimal of an hour is a second
- (a) .0025 (b) .0256
- (c) .00027 (d) .000126
18. $337.62 + 8.591 + 34.4 = ?$
- (a) 370.611 (b) 380.511
- (c) 380.611 (d) 426.97
19. $34.95 + 240.016 + 23.98 = ?$
- (a) 298.0946 (b) 298.111
- (c) 298.946 (d) 299.09
20. Which of the following is greater than $\frac{3}{4}$ and less than $\frac{5}{6}$?
- (a) $\frac{1}{2}$ (b) $\frac{2}{3}$
- (c) $\frac{4}{5}$ (d) $\frac{9}{10}$

21. Which of the following numbers does not be between $\frac{4}{5}$ and $\frac{7}{13}$?

(a) $\frac{1}{2}$

(b) $\frac{2}{3}$

(c) $\frac{3}{4}$

(d) $\frac{5}{7}$

22. $.04 \times ? = .000016$

(a) 0.0004

(b) 0.04

(c) 4

(d) None of these

23. $100 + 50 \times 2 = ?$

(a) 75

(b) 150

(c) 200

(d) 300

24. $5004 + 139 - 6 = ?$

(a) 24

(b) 30

(c) 36

(d) 42

25. $(8 + 88) \times 8888088 = ?$

(a) 808008

(b) 808080

(c) 808088

(d) 8008008

26. $\frac{11}{4} = \frac{77}{?}$

(a) 28

(b) $\frac{77}{28}$

(c) 44

(d) 308

27. $\frac{180 \times 15 - 12 \times 20}{140 \times 8 + 2 \times 55} = ?$

(a) $\frac{1}{7}$

(b) $\frac{4}{5}$

(c) 2

(d) 4

28. How many $\frac{1}{8} S$ are there in $37\frac{1}{2}$?

(a) 300

(b) 400

(c) 500

(d) Cannot be determined

29. $\frac{3}{8}$ is what part of $\frac{1}{12}$?

(a) $\frac{3}{7}$

(b) $\frac{1}{12}$

(c) $\frac{4}{3}$

(d) None of these

30. $52.416 \div 18.72 + 6.28 = ?$

(a) 2.09664

(b) 8.36

(c) 9.08

(d) 9.80

31. The value of $(256)^{\frac{5}{4}}$ is

(a) 512

(b) 984

(c) 1024

(d) 1032

32. The value of $\left[\frac{32}{243}\right]^{-\frac{4}{5}}$ is

(a) $\frac{4}{9}$

(b) $\frac{9}{4}$

(c) $\frac{16}{81}$

(d) $\frac{81}{16}$

33. The value of $5\frac{1}{4} \times (125)^{0.25}$ is

(a) $\sqrt{5}$

(b) 5

(c) $5\sqrt{5}$

(d) 25

34. If $a^x = b$, $b^y = c$ and $c^z = a$, then the value of xyz is

(a) 0

(b) 1

(c) $\frac{1}{abc}$

(d) abc

35. $(0.04)^{-1.5} = ?$

(a) 25

(b) 125

(c) 250

(d) 625

36. The ratio 5:4 expressed as a percent equals
- (a) 12.5% (b) 40%
- (c) 80% (d) 125%
37. Half of 1 percent written as a decimal is
- (a) 0.005 (b) 0.05
- (c) 0.02 (d) 0.2
38. 60% of 264 is the same as
- (a) 10% of 44 (b) 15% of 1056
- (c) 30% of 132 (d) None of these
39. 0.01 is what percent of 0.1?
- (a) $\frac{1}{100}$ (b) $\frac{1}{10}$
- (c) 10 (d) 100
40. If 8% of $x = 4\%$ of y , then 20% of x is
- (a) 10% of y (b) 16% of y
- (c) 80% of y (d) None of these
41. I gain 70 paise on Rs. 70. My gain percent is
- (a) 0.1% (b) 1%
- (c) 7% (d) 10%
42. By selling an article for Rs. 100, a man gains Rs. 15. Then, his gain % is
- (a) 15% (b) $12\frac{2}{3}\%$
- (c) $17\frac{11}{17}\%$ (d) $17\frac{1}{4}\%$
43. If selling price of an article is $\frac{4}{3}$ of its cost price, the profit in the transaction is
- (a) $16\frac{2}{3}\%$ (b) $20\frac{1}{2}\%$
- (c) $25\frac{1}{2}\%$ (d) $33\frac{1}{3}\%$

44. 10% loss on selling price is what percent loss on the cost price?
- (a) $9\frac{1}{11}\%$ (b) $9\frac{2}{11}\%$
(c) 10% (d) 11%
45. A man sold 18 cots for Rs. 16,800, gaining thereby the cost price of 3 cots. The cost price of a cot is
- (a) Rs. 650 (b) Rs. 700
(c) Rs. 750 (d) Rs. 800
46. If $A:B=3:4$ and $B:C=8:9$, then $A:C$ is
- (a) 1:3 (b) 3:2
(c) 2:3 (d) 1:2
47. If $\frac{A}{3}=\frac{B}{4}=\frac{C}{5}$, then $A:B:C$ is
- (a) 4:3:5 (b) 5:4:3
(c) 3:4:5 (d) 20:15:2
48. The ratio of $4^{3.5}:2^5$ is same as
- (a) 2:1 (b) 4:1
(c) 7:5 (d) 7:10
49. If $0.75:x::5:8$, then x is equal to
- (a) 1.12 (b) 1.20
(c) 1.25 (d) 1.30
50. The mean proportional between 234 and 104 is
- (a) 12 (b) 39
(c) 54 (d) None of these

51. P and Q started a business investing Rs. 85,000 and Rs. 15,000 respectively. In what ratio the profit earned after 2 years be divided between P and Q respectively?
- (a) 3 : 4 (b) 3 : 5
(c) 15 : 23 (d) None of these
52. A, B, C hired a car for Rs. 520 and used it for 7, 8 and 11 hours respectively. Hire charges paid by B were
- (a) Rs. 140 (b) Rs. 160
(c) Rs. 180 (d) Rs. 220
53. Anand and Deepak started a business investing Rs. 22,500 and Rs. 35,000 respectively. Out of a total profit of Rs. 13,800 Deepak's share is
- (a) Rs. 5,400 (b) Rs. 7,200
(c) Rs. 8,400 (d) Rs. 9,600
54. A starts business with Rs. 3,500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3 what is B's contribution in the capital?
- (a) Rs. 7,500 (b) Rs. 8,000
(c) Rs. 8,500 (d) Rs. 9,000
55. A and B are partners in a business. A contributes $\frac{1}{4}$ of the capital for 15 months and B received $\frac{2}{3}$ of the profit for how long B's money was used?
- (a) 6 months (b) 9 months
(c) 10 months (d) 1 year
56. Find the ratio in which rice at Rs. 720 a kg be mixed with rice at Rs. 5.70 a kg to produce a mixture worth Rs. 6.30 a kg.
- (a) 1 : 3 (b) 2 : 3
(c) 3 : 4 (d) 4 : 5

57. In what ratio must water be mixed with milk costing Rs. 12 per litre to obtain a mixture worth of Rs. 8 per litre
- (a) 1 : 2 (b) 2 : 1
(c) 2 : 3 (d) 3 : 2
58. In what ratio must water be mixed with milk to gain $16\frac{2}{3}\%$ on selling the mixture at cost price?
- (a) 1 : 6 (b) 6 : 1
(c) 2 : 3 (d) 4 : 3
59. Two vessels A and B contain milk and water mixed in the ratio 8:5 and 5:2 respectively. The ratio in which these two mixtures be mixed to get a new mixture containing $69\frac{3}{13}\%$ milk is
- (a) 2 : 7 (b) 3 : 5
(c) 5 : 2 (d) 5 : 7
60. A merchant has 1000 kg of sugar, part of which he sells at 8% profit and the rest at 18% profit. He gains 14% on the whole. The quantity sold at 18% profit is
- (a) 400 gm (b) 560 kg
(c) 600 kg (d) 640 kg
61. The average of 20 numbers is zero of them, at the most, how many may be greater than zero?
- (a) 0 (b) 1
(c) 10 (d) 19
62. The average of first five multiples of 3 is
- (a) 3 (b) 9
(c) 12 (d) 15
63. The average of first 50 natural number is
- (a) 12.25 (b) 21.25
(c) 25 (d) 25.5

64. The average of all odd numbers upto 100 is
(a) 49 (b) 49.5
(c) 50 (d) 51
65. The average of five numbers is 27.16 one number is excluded the average becomes 25. The excluded number is
(a) 25 (b) 27
(c) 30 (d) 35
66. A motorist travels to a place 150 Km away at a average speed of 50 Km/hr and returns at 30 Km/hr. His average speed for the whole journey in Km/hr is
(a) 35 (b) 37
(c) 37.5 (d) 40
67. The average of the first nine prime numbers in
(a) 9 (b) 11
(c) $11\frac{1}{9}$ (d) $11\frac{2}{9}$
68. Find the average of all the numbers between 6 and 34 which are divisible by 5
(a) 18 (b) 20
(c) 24 (d) 30
69. Sachin is younger than Rahul by 4 years. If their ages are in the respective ratio of 7:9, how old is Sachin?
(a) 16 years (b) 18 years
(c) 12 years (d) None of these
70. The ratio between the present ages of P and Q is 6:7. If Q is 4 years old than P, what will be the ratio of the ages of P and Q after 4 years?
(a) 3 : 4 (b) 3 : 5
(c) 4 : 3 (d) None of these

71. Six years ago, the ratio of the ages of Kunal and Sagar was 6 : 5 four years hence, the ratio of their ages will be 11:10 what is Sagar's age at present?
- (a) 16 years (b) 18 years
(c) 12 years (d) None of these
72. Ten years ago. A was half of B in age. If the ratio of their present ages is 3 : 4, what will be the total of their present ages?
- (a) 20 years (b) 30 years
(c) 45 years (d) None of these
73. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of the son is
- (a) 14 years (b) 18 years
(c) 20 years (d) 22 years
74. The difference between the ages of two persons is 10 years fifteen years ago, the elder one was twice as old as the younger one, the present age of the elder person is
- (a) 25 years (b) 35 years
(c) 45 years (d) 55 years
75. A father said to his sons. "I was as old as you are at present at the time of your birth If the father's age is 38 years now, the son's age five years back was
- (a) 14 years (b) 19 years
(c) 33 years (d) 38 years
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