S.No. 5635

16 SNMEMM 1

(For candidates admitted from 2016–2017 onwards)

U.G. DEGREE EXAMINATION, APRIL 2022.

Part IV — Mathematics — Non-Major Elective

QUANTITATIVE APTITUDE — I

Time : Three hours

Maximum : 75 marks

Answer ALL questions.

Multiple choice questions : $(75 \times 1 = 75)$

Choose the correct answer :

1. $5358 \times 51 =$

(a) 273258 (b) 273268

(c) 273348 (d) 273358

2. If $1400 \times x = 1050$. Then, $x =$ _____

(a) $\frac{1}{4}$ (b) $\frac{3}{5}$

(c) $\frac{2}{3}$ (d) $\frac{3}{4}$

3. $8597 - ? = 7429 - 4358$

(a) 5426 (b) 5706

(c) 5526 (d) 5476

4. The sum of first 45 natural number is _____

(a) 1035 (b) 1280

(c) 2070 (d) 2140

5. How many 3-digit numbers are completely divisible by 6 is _____

(a) 149 (b) 150

(c) 151 (d) 166

6. The L.C.M. of 148 and 185 is _____

(a) 680 (b) 740

(c) 2960 (d) 3700

7. The greatest number that exactly divides 105, 1001 and 2436 is

(a) 3 (b) 7

(c) 11 (d) 21

8. The least number which when increased by 5 is divisible by each one of 24, 32, 36 and 54 is

(a) 427 (b) 859

(c) 869 (d) 4320

9. Find the highest common factor of 36 and 84 is

(a) 4 (b) 6

(c) 12 (d) 18

10. The H.C.F. of 1.75, 5.6 and 7 is

(a) 0.07 (b) 0.7

(c) 3.5 (d) 0.35

11. Three-fourth of a number is 60 more than its one-third the number is

(a) 84 (b) 108

(c) 144 (d) 200

12. The product of two numbers is 45 and the sum of their squares is 106. The number are

(a) 3 and 5 (b) 5 and 9

(c) 5 and 19 (d) 45 and 1

13. The sum of two numbers is 40 and their difference is 4. The ratio of the numbers is

(a) 11 : 9 (b) 11 : 18

(c) 21 : 19 (d) 22 : 9

14. The sum of four consecutive even integers is 1284. The greatest of them is

(a) 320 (b) 322

(c) 324 (d) 326

15. The product of two functions 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) $\frac{7}{3}$

16. $\left[\frac{8(3.75)^3+1}{(7.5)^2-6.5}\right]$ is equal to

(a) $\frac{9}{5}$ (b) 2.75

(c) 4.75 (d) 8.5

17. $\frac{5\times1.6-2\times1.4}{1.3}$ =

(a) 0.4 (b) 1.2

(c) 1.4 (d) 4

18. Which of the following fractions is the smallest?

(a) $\frac{13}{16}$ (b) $\frac{15}{19}$

(c) $\frac{17}{21}$ (d) $\frac{7}{8}$

19. The value of $0.5\overline{7}$ is

(a) $\frac{57}{10}$ (b) $\frac{57}{99}$

(c) $\frac{26}{45}$ (d) $\frac{52}{9}$

20. If $1.5x = 0.04y$, then the value of $\left[\frac{y-x}{y+x}\right]$ is

(a) $\frac{730}{77}$ (b) $\frac{73}{77}$

(c) $\frac{7.3}{77}$ (d) 700

21. $3.\overline{87} - 2.59 =$

(a) 1.20 (b) $1.\overline{2}$

(c) $1.\overline{27}$ (d) $1.\overline{28}$

22. The fraction $101\frac{.27}{100000}$ in decimal form is

(a) .01027 (b) .10127

(c) 101.00027 (d) 101.000027

23. $792.02 + 101.32 - 306.76 =$

(a) 589.58 (b) 893.34

(c) 999.11 (d) 1200.10

24. $5004 \div 139 - 6 =$

(a) 24 (b) 30

(c) 36 (d) 42

25. How many $\frac{1}{8}$s are there in $37\frac{1}{2}$

(a) 300 (b) 400

(c) 500 (d) 600

26. By how much does $\frac{6}{7/8}$ exceed $\frac{6/7}{8}$ is

(a) $6\frac{1}{8}$ (b) $6\frac{3}{4}$

(c) $7\frac{3}{4}$ (d) $7\frac{5}{6}$

27. If $\frac{37}{13} = 2 + \cfrac{1}{x + \cfrac{1}{y + \cfrac{1}{z}}}$, where x, y, z are natural numbers, then x, y, z is

(a) 1, 2, 5 (b) 1, 5, 2

(c) 5, 2, 11 (d) 11, 2, 5

28. $\frac{(13)^3 + 7^3}{(13)^2 + 7^2 - ?} = 20$

(a) 6 (b) 20

(c) 91 (d) 70

29. The total number of digits used in numbering the pages of book having 366 pages is _____.

(a) 732 (b) 990

(c) 1098 (d) 1305

30. What is the value of $\frac{(P+Q)}{(P-Q)}$ if $\frac{P}{Q} = 7$ is

(a) $\frac{1}{3}$ (b) $\frac{2}{3}$

(c) $\frac{4}{3}$ (d) $\frac{7}{8}$

31. $(0.04)^{-1.5} =$

(a) 25 (b) 125

(c) 250 (d) 625

32. The value of $\left[-\frac{1}{216}\right]^{-\frac{2}{3}}$ is

(a) 36 (b) –36

(c) $\frac{1}{36}$ (d) $-\frac{1}{36}$

33. If $2^{2n-1} = \frac{1}{8^{n-3}}$, then the value of n is

(a) 3 (b) 2

(c) 0 (d) -2

34. If $\left[\frac{9}{4}\right]^{x}\left[\frac{8}{27}\right]^{x-1} = \frac{2}{3}$, then the value of x is

(a) 1 (b) 2

(c) 3 (d) 4

35. What percent is 3% of 5% is

(a) 15% (b) 30%

(c) 50% (d) 60%

36. 15% of (?) of 582 = 17.46

(a) 2 (b) 10

(c) 20 (d) 30

37. If X is 80% of Y, then what percent of $2X$ is Y?

(a) 40% (b) $62\frac{1}{2}\%$

(c) $66\frac{2}{3}\%$ (d) 80%

38. The city with the lowest number of magazine-reader is

(a) Q (b) R

(c) S (d) T

39. P is six times as large as q. The percent that q is less than p, is

(a) $16\frac{2}{3}$ (b) 60

(c) $83\frac{1}{3}$ (d) 90

40. A's income is 25% more than B's income. B's income in terms of A's income is

(a) 75% (b) 80%

(c) 90% (d) 96%

41. 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) $17\frac{1}{4}\%$

42. I gain 70 paise on Rs. 70. My gain percent is

(a) 0.1%
(b) 1%
(c) 7%
(d) 10%

43. The ratio of the cost price and the selling price is 4 : 5. The profit percent is

(a) 10%
(b) 20%
(c) 25%
(d) 30%

44. Some articles were bought at 6 for Rs. 5 and sold at 5 for Rs. 6. Gain percent is

(a) 30%
(b) $33\frac{1}{3}\%$
(c) 35%
(d) 44%

45. If loss is $\frac{1}{3}$ of S.P. the loss percentage is

(a) $16\frac{2}{3}\%$
(b) 20%
(c) 25%
(d) $33\frac{1}{3}\%$

46. 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

47. If $X^2+4Y^2=4XY$, then X : Y is

(a) 2 : 1
(b) 1 : 2
(c) 1 : 1
(d) 1 : 4

48. Two whole numbers whose sum is 72 cannot be in the ratio

(a) 5 : 7 (b) 3 : 5

(c) 3 : 4 (d) 4 : 5

49. The third proportional to 0.36 and 0.48 is

(a) 0.64 (b) 0.1728

(c) 0.42 (d) 0.94

50. The compounded ratio of (2 : 3), (6 : 11) and (11 : 2) is

(a) 1 : 2 (b) 2 : 1

(c) 11 : 24 (d) 36 : 121

51. In a school, 10% of the boys are same in number as $\frac{1}{4}^{th}$ of the girls what is the ratio of boys to girls in that school

(a) 3 : 2 (b) 5 : 2

(c) 2 : 1 (d) 4 :3

52. 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

53. A, B, C hired a car for Rs. 520 and used if of 7, 8 and 11 hours respectively, Hire charge paid by B were

(a) Rs. 140 (b) Rs. 160

(c) Rs. 180 (d) Rs. 220

54. A and B invest in a business in the ratio 3 : 2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is

(a) Rs. 1,425 (b) Rs. 1,500

(c) Rs. 1,537.50 (d) Rs. 1,576

55. X and Y invested in a business. They earned some profit which they divided in the ratio of 2 : 3. If X invested Rs. 40,000, the amount invested by Y is

(a) Rs. 45,000 (b) Rs. 50,000

(c) Rs. 60,000 (d) Rs. 80,000

56. 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

57. A dishonest milkman professes to sell his milk at cost price but he mixes it with water and thereby gains 25%. The percentage of water in the mixture is

(a) 4% (b) $6\frac{1}{4}\%$

(c) 20% (d) 25%

58. In what ratio must tea at Rs. 62 per kg be mixed with tea at Rs. 72 per kg so that the mixture must be worth Rs. 64.50 per kg?

(a) 3 : 1 (b) 3 : 2

(c) 4 : 3 (d) 5 : 3

59. 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

60. How many kilograms of sugar costing Rs. 9 per kg must be mixed with 27 kg of sugar costing Rs. 7 per kg so that there may be a gain of 10% by selling the mixture at Rs. 9.24 per kg?

(a) 36 kg (b) 42 kg

(c) 54 kg (d) 63 kg

61. The average of the first nine prime numbers in

(a) 9 (b) 11

(c) $11\frac{1}{9}$ (d) $11\frac{2}{9}$

62. The mean of $1^2, 2^2, 3^2, 4^2, 5^2, 6^2, 7^2$ is

(a) 10 (b) 20

(c) 30 (d) 40

63. The average of a non-zero number and its square is 5 times the number. The number is

(a) 9 (b) 17

(c) 29 (d) 295

64. Of the 4 numbers, whose average is 60, the first is one-fourth of the sum of the last 3 the first number is

(a) 15 (b) 45

(c) 48 (d) 60.25

65. The average of 2, 7, 6 and X is 5 and the average of 18, 1, 6 X and Y is 10. What is the value of Y?

(a) 5 (b) 10

(c) 20 (d) 30

66. The average of all odd numbers upto 100 is

(a) 49 (b) 49.5

(c) 50 (d) 51

67. The mean of 50 observations was 36. It was found later that an observation 48 was wrongly taken as 23. The corrected new mean is

(a) 35.2 (b) 36.1

(c) 36.5 (d) 39.1

68. Three year ago the average age of A and B was 18 years. With C joining them, the average age becomes 22 years. How old is C now?

(a) 24 years (b) 40 years

(c) 50 years (d) None of these

69. 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

70. Present age of X and Y in the ratio 5 : 6 respectively. 7 years hence this ratio will become 6 : 7 respectively. What is X's present age in years?

(a) 35
(b) 42
(c) 49
(d) None of these

71. The ratio of the present ages of two brothers is 1 : 2 and 5 years back, the ratio was 1 : 3 what will be the ratio of their ages after 5 years

(a) 1 : 4
(b) 2 : 3
(c) 3 : 5
(d) 5 : 6

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. The ratio between the present ages of P and Q is 6 : 7. If Q is 4 years older 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

74. The total age of A and B is 12 years more than the total age of B and C, C is how many years younger than A

(a) 12
(b) 24
(c) C is elder than A
(d) None of these

75. Sneh's age is $\frac{1}{6}^{th}$ of her father's age. Sneh's father's age will be twice of Vimal's age after 10 years. If Vimal's eighth birthday was celebrated two years before, then what is Sneh's present age.

(a) $6\frac{2}{3}$ years
(b) 24 years
(c) 30 years
(d) None of these