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(20123)
BBA– V Sem.

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18098

BBA Examination, Dec.- 2022

Question Booklet Number

Arithmatic Aptitude

Question Booklet Series

P

Code : BBA-501

(New)

(To be filled in by the Candidate / निम्न पूर्तियाँ परीक्षार्थी स्वयं भरें)

Roll No. (in figures) _____
अनुक्रमांक (अंकों में)

Roll No. (in words) _____
अनुक्रमांक (शब्दों में)

Enrolment No. (in figures) _____

[Maximum Marks : 75
[अधिकतम अंक : 75

[Time : 2 Hours
[समय : 2 घण्टे

Name of College _____
कॉलेज का नाम

Signature of Invigilator
कक्ष निरीक्षक के हस्ताक्षर

Instructions to the Examinee :

1. Do not open the booklet unless you are asked to do so.
2. The booklet contains 100 questions. Examinee is required to answer all 100 questions in the OMR Answer-Sheet provided and **not in the question booklet**. All questions carry equal marks.
3. Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.

(Remaining instructions on last page)

परीक्षार्थियों के लिए निर्देश :

1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाये।
2. प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को सभी 100 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, **प्रश्न-पुस्तिका पर नहीं**। सभी प्रश्नों के अंक समान हैं।
3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गये हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, उसे तुरन्त बदल लें।

(शेष निर्देश अन्तिम पृष्ठ पर)

1. The mean proportional between 2 and 8 is-
   (A) 4
   (B) 16
   (C) 3
   (D) 1
2. The simple interest on ₹. 100 at the rate of 5% p.a. for 5 years is-
   (A) 10
   (B) 5
   (C) 20
   (D) 25
3. The seventh term of an arithmetic progression 7, 10, 13, 16 ------ is-
   (A) 28
   (B) 22
   (C) 25
   (D) 20
4. The ratio of work done by (x+2) men in (x-2) days to that of (x-1) men in (x+1) days is 4:5, the value of x is-
   (A) ±4
   (B) 6
   (C) 4
   (D) 8
5. The value of algorithm 1 to the base 10 is-
   (A) 2
   (B) 10
   (C) 0
   (D) 1
6. The set A={3, 4, 5} and the set B={6, 7} then the set A∩B is
   (A) Nullset
   (B) {0}
   (C) {ϕ}
   (D) {A}
7. The three numbers are in the ratio 5:7:12 and sum of first and third number is greater than second by 50. The sum of three numbers is
   (A) 130
   (B) 120
   (C) 128
   (D) 125
8. In a certain times 1400 becomes ₹ 1848 at 8% P.a. simple interest. When ₹ 2100 will become ₹ 2604 at the same time, The rate of interest is-
   (A) 8.2
   (B) 7
   (C) 10
   (D) 6
9. The year by which sum of rupees would be 1.21 times of itself at 10% per annum CI is-
   (A) 2
   (B) 3
   (C) 3.5
   (D) 2.5

10. If S be the set of all prime numbers and $M=\{x:0<x<=9\}$ then $M-(S\cap M)$ is-

(A) {0, 1, 4, 6, 8, 9}

(B) {0, 4, 6, 8}

(C) {1, 2, 4, 6, 8}

(D) {1, 3, 5, 7}

11. If $a=b^2=c^3$ Then the value of $\log_a(abc)$ is-

(A) 13/3

(B) 11/6

(C) 8/3

(D) 4

12. ${}^5C_r-{}^3C_2={}^7C_1$ then r is-

(A) 4

(B) 3

(C) 2

(D) both 2 and 3

13. The value of $\log_7 7$ is-

(A) 0

(B) −1

(C) ½

(D) 1

14. If ${}^{11}P_r=110$ then the value of r is-

(A) 2

(B) 10

(C) 4

(D) None of these

15. If $A=\begin{bmatrix} x & 1 \\ -1 & x \end{bmatrix}$ then for what value of x, $A^2=0$-

(A) 1

(B) −1

(C) ±1

(D) None of these

16. What must be the matrix x if $4x+\begin{bmatrix} 1 & 4 \\ 1 & 3 \end{bmatrix}=\begin{bmatrix} 5 & 8 \\ 13 & 7 \end{bmatrix}$

(A) $\begin{bmatrix} 1 & 1 \\ 3 & 1 \end{bmatrix}$

(B) $\begin{bmatrix} 6 & 12 \\ 14 & 10 \end{bmatrix}$

(C) $\begin{bmatrix} 1/4 & 1/4 \\ 3/4 & 1/4 \end{bmatrix}$

(D) $\begin{bmatrix} 3/2 & 3 \\ 7/2 & 5/2 \end{bmatrix}$

17. Two numbers are in the ratio 3:4. If their HCF is 4, then their LCM will be-

(A) 96

(B) 12

(C) 24

(D) 48

18. Three mobiles phone make a beep after every 48 sec. 72 sec. 108 sec. respectively. They beeped together at 10 a.m. The time they will next make a beep together at the earliest is-

(A) 10:07:12 hrs

(B) 10:07:24 hrs

(C) 10:07:36 hrs

(D) 10:07:48 hrs

19. If 30 labors are required to construct a building in 90 days. How many labors are required to construct the building in 45 days.

(A) 60

(B) 70

(C) 15

(D) 40

20. Find 25% of ₹ 1500

(A) 375

(B) 500

(C) 725

(D) 1125

21. Ratio should be reduced to _____term.

(A) Equal

(B) Lowest

(C) Highest

(D) None of the above

22. Price of a TV set is ₹ 20000 is available for sale at a discount of ₹ 800. Find the purchaser price and discount rate-

(A) 18200, 5%

(B) 19200, 5%

(C) 18200, 4%

(D) 19200, 4%

23. A shopkeeper buy a TV set ₹ 18000, on the discount of 12%. What was the original price of TV set-

(A) 20455

(B) 20000

(C) 21455

(D) 19450

24. A Merchant offers buy three shirts and get one free. Convert this offer of quantity discount into equivalent discount rate-

(A) 25%

(B) 20%

(C) 30%

(D) 28%

25. What is the difference between compound interest and simple interest on ₹ 4000 at 5% P.a. for 2 years-

(A) 10

(B) 11

(C) 20

(D) 100

26. Rakesh buys bananas at ₹ 24 per dozen and sell Then at 4 ₹ 12. Find his gain percent-

(A) 50%

(B) 40%

(C) 45%

(D) 30%

27. The cost of pen is 80% of its printed price for sale. If shopkeeper sells the pen after allowing 12% discount, What Will be the gain percent

(A) 10%

(B) 12%

(C) 8%

(D) None of above

28. Find gain percent if CP=₹ 8000 and Gain ₹ 80

(A) 10%

(B) 100%

(C) 1%

(D) 5%

29. Ramesh sells a painting to Shyam at 15% profit. Shyam sells to Arun at 10% Loss. If Arun pays ₹ 517.50 for it, then Ramesh purchased it at-

(A) 500

(B) 700

(C) 1200

(D) 900

30. A shopkeeper has given 20% discount on prices of woolen caps during sale. If a person wants a discount of ₹ 400 then how many woolen caps costing 400 should be purchased.

(A) 5

(B) 10

(C) 6

(D) 7

31. Find the interest on ₹ 1000 for a period of 5 years at the rate of 5% per annum.

(A) 250

(B) 1250

(C) 750

(D) 450

32. What should be added to each term of the ratio 5:6 so that ratio becomes 3:2:

(A) 4

(B) 11

(C) 12

(D) 9

33. Which of the following is correct:

(A) $(A \cup B)' = A' \cap B'$

(B) $(A \cap B)' = (A \cup B)'$

(C) $(A \cup B) \cap C = AU(B \cap C)$

(D) $(A \cup A) = 1$

34. If x and y are two sets such that $n(x)=54$ $n(y)=70$ and $n(x \cup y)=100$ Find $n(x \cap Y)$-

(A) 12

(B) 24

(C) 116

(D) 84

35. In a group of 100 students 60 like Maths, 50 like Science and 32 like both. How Many like neither Maths or Science.

(A) 8

(B) 22

(C) 25

(D) None of the above

36. In how many ways can the word TEMPT be arranged such that both T come together

(A) 120

(B) 24

(C) 12

(D) 40

37. Find the value of ${}^{9}c_{4}+{}^{9}c_{3}$

(A) ${}^{10}C_{4}$

(B) ${}^{18}C_{7}$

(C) ${}^{9}C_{7}$

(D) ${}^{18}C_{4}$

38. In how many ways 10 bulbs can be arranged so that non-defective and defective bulb never come together-

(A) 8×9!

(B) 8×8!

(C) 7×9!

(D) 9×8!

39. In a buffet there are two tables each confainning 4 dishes? A person is allowed to eat 5 dishes but not more than 3 dishes from any table. In how many ways 5 dishes can be selected

(A) 24

(B) 16

(C) 48

(D) 64

40. The sum of ages of 4 kids is 30 years, each kid is born at the interval of 3 years. Find The age of elder one.

(A) 12

(B) 20

(C) 15

(D) 18

41. In a family age of brother and sister are in the ratio 5:3 respectively. After four years the ratio of their ages is 7:5. What is the present age of brother.

(A) 6

(B) 10

(C) 12

(D) 20

42. Find the compound interest on ₹ 1000 for 2 years at 2% per annum.

(A) 20

(B) 20.4

(C) 20.6

(D) 20.2

43. For two invertible matrices X and y of suitable orders the value of $(XY)^{-1}$ is-

(A) $(x'y')^{-1}$

(B) $Y^{-1}X^{-1}$

(C) $X^{-1}Y^{-1}$

(D) $(XY')^{-1}$

44. If $A = \begin{bmatrix} 2 & 4 \\ 1 & 2 \end{bmatrix}$ find A^2-

(A) $\begin{bmatrix} 2 & 6 \\ 2 & 4 \end{bmatrix}$ (B) $\begin{bmatrix} 8 & 16 \\ 4 & 8 \end{bmatrix}$

(C) $\begin{bmatrix} 4 & 8 \\ 2 & 4 \end{bmatrix}$ (D) $\begin{bmatrix} 4 & 2 \\ 2 & 1 \end{bmatrix}$

45. The inverse of matrix exists when

(A) $|A|=0$

(B) $|A| \neq 0$

(C) $|A|=1$

(D) $|A| \neq 1$

46. For matrix addition _____ is true-

(A) Commutative Law

(B) Associative Law

(C) Cancellation Law

(D) All of the above

47. The HCF of two numbers is 13 and the other two factors of their L.C.M. are 5 and 6. The larger of two numbers is

(A) 65

(B) 78

(C) 30

(D) 70

48. Three numbers are in the ratio 3:4:5 and their LCM is 1200. Their HCF is-

(A) 40

(B) 60

(C) 20

(D) 30

49. The LCM of two numbers is 24. The two numbers are in the ratio 3:2. The difference of two number is-

(A) 8

(B) 4

(C) 2

(D) 6

50. Find the highest common factor of 72,36,12 -

(A) 72

(B) 12

(C) 36

(D) 9

51. Find the least number that divides 24, 30, 40, 108 leaving 16 as remainder

(A) 1008

(B) 1096

(C) 1088

(D) 1072

52. The HCF and LCM of two numbers are 3 and 1170 respectively. If one of the number is 45. Find the other-

(A) 48

(B) 42

(C) 45

(D) 47

53. 10 men can complete the work in 8 day. How many days will it take if 20 men do the job-

(A) 5

(B) 6

(C) 7

(D) 4

54. Express 2.5% as ratio in simplest form-

(A) 1/40

(B) 25/100

(C) 25/10

(D) 5/200

55. Find 40% more than ₹ 400-

(A) 440

(B) 460

(C) 560

(D) 520

56. Arun had to write a book. He wrote 40% of book pages and still has to write 420 pages. Find the total pages of book-

(A) 588

(B) 600

(C) 652

(D) 700

57. If A and B invested ₹ 10000 and ₹15000 in a business respectively. If their profit is ₹ 2400 than find the B'S share in profit-

(A) 960

(B) 480

(C) 720

(D) 1440

58. A can make a wall in 12 days. If A and B work together. They can make a wall in 20/3 days, B alone can do a work in Row many days-

(A) 18

(B) 15

(C) 12

(D) 13

59. 5 men can setup the computer lab in 4 days. How many men can setup the Lab in half day.

(A) 80

(B) 20

(C) 40

(D) 10

60. The speed of train is 100 Km/h. What will be its speed in m/sec.

(A) 27.77 m/sec

(B) 25.55 m/sec

(C) 25 m/sec

(D) 27 m/sec

61. Two trains one at 18 Km/h and other at 27Km/h are going parallel in the opposite direction. If their respective lengths are 100 m and 150m. How long will it take them to cross each other.

(A) 12 sec

(B) 12.5 sec

(C) 20 sec

(D) 20.5 sec

62. 150m Long train crosses a tree in 7.5 sec. Calculate the speed of train.

(A) 40 Km/hr

(B) 60 Km/hr

(C) 70 Km/hr

(D) 72 Km/hr

63. Find the average of first 10 even numbers.

(A) 11

(B) 12

(C) 13

(D) 10

64. The average of 9 consecutive numbers is 6. The largest of these numbers is-

(A) 24

(B) 15

(C) 11

(D) 10

65. The average of 7 numbers is 59. If the average of four numbers is 57.5 and average of last four numbers is 60.5, then the 4th number is-

(A) 59

(B) 60

(C) 58

(D) 61

66. The perimeter of a square is 120cm. What is the area of square-

(A) 480 cm^2

(B) 900 cm^2

(C) 900 cm

(D) 480 cm

67. A rectangular table measures 5m by 3m. Each side is bordered with 4 rounds of lace. What is the length of lace needed-

(A) 10m

(B) 64m

(C) 32m

(D) 60m

68. The value of

$Log_3 4 + Log_4 3 + Log_2 3 + Log_3 2$ is-

(A) 1

(B) −1

(C) 2

(D) −2

69. Given that $\log_{10} 2 = .3010$ then $\log_2 10$ is equal to-

(A) 0.301

(B) 2.32

(C) 3.32

(D) 0.699

70. How Many terms are in the series 2, 4, 6, ----- 160?

(A) 80

(B) 60

(C) 70

(D) 50

71. Find the sum of G.P. series 9+27+81+-------2187

(A) 3280

(B) 3276

(C) 3285

(D) 2191

72. Find the 50th term of the series 9,14,19 -------

(A) 254

(B) 250

(C) 252

(D) 256

73. Find the missing number of the sequence 4, 16, 64 _____ 1024, 4096-

(A) 252

(B) 256

(C) 258

(D) 260

74. The sum of the digits of a two digit number is 6, when the number is reversed the number increases by 36. Find the number.

(A) 24

(B) 15

(C) 33

(D) 42

75. A container of paint is 3/4 full. When 9 litre of paint is used from container, it is ½ full what is the capacity of container

(A) 27

(B) 20

(C) 36

(D) 32

76. 'A can paint a house in 3 days and B alone can paint a house in 2 days. If they work together, they get ₹ 225 for paint a house. Find the share of A.

(A) 85

(B) 80

(C) 90

(D) 95

77. A boat goes upstream at 26 Km/hr and downstream at 36Km/hr. What is the speed of stream

(A) 5 Km/hr

(B) 2 Km/hr

(C) 4 Km/hr

(D) 6 Km/hr

78. The product of two numbers is 27 and their product is 180. Find the smaller number.
(A) 12
(B) 13
(C) 15
(D) 14

79. Find the roots of the equation $x^2-27x+180=0$
(A) 12 and 15
(B) −12 and −15
(C) −12 and 15
(D) 12 and −15

80. If sum of roots =6 product of roots=−16 construct a quadratic equation-
(A) $x^2-6x+16=0$
(B) $x^2+6x-16=0$
(C) $x^2-6x-16=0$
(D) None of the above

81. A boat goes 80 Km upstream in 8 hours and 72 Km downstream in 6 hours. The speed of boat in standing water is?
(A) 10Km/hr
(B) 11 Km/hr
(C) 10.5 Km/hr
(D) 11.5 Km/hr

82. A tank is filled in 4 hours but takes two hours longer to fill because of leak in its bottom. If the tank is full, the leak will empty it in?
(A) 12 hrs
(B) 10 hrs
(C) 8 hrs
(D) 6 hrs

83. An idol contains 20g Gold 20g Copper, 40g Silver. Then find out the percentage of copper in idol?
(A) 25%
(B) 20%
(C) 30%
(D) 15%

84. If the cost of x meters of curtain is R rupees then what is the cost of y meters of curtain at the same rate?
(A) $\frac{xy}{r}$
(B) xy
(C) yr
(D) yr/x

85. Which of the following is not divisible by 11?
(A) 86416
(B) 16387
(C) 764852
(D) 981376

86. The rational number between $\frac{1}{2}$ and $\frac{3}{5}$ is?
(A) 2/5
(B) 4/7
(C) 2/3
(D) 1/3

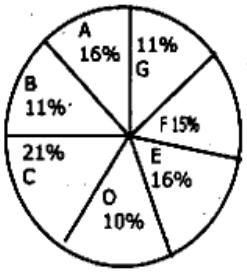
87. If U={a, b, c, d, e, f}
A={a, b, c}
find (U∪A)'
(A) U
(B) A
(C) ϕ
(D) None of these

88. Today is Thursday. After 63 days it will be-
(A) Friday
(B) Thursday
(C) Wednesday
(D) Tuesday

89. Given that
$\sqrt{574.6} = 23.97$
$\sqrt{5746} = 75.8$
Then $\sqrt{0.00005746}$ equals-
(A) .002397
(B) .0002397
(C) .007580
(D) .0007580

90. There are 10 balls in a bag. Find the no. of ways in which 3 balls are chosen from the bag.
(A) 120
(B) 125
(C) 135
(D) 145

Directions: Study the pie chart and answer the questions from 91 to 95 based on that proportion of population of seven villages in 1997.



Village %	Populations below poverty line
A	38
B	52
C	42
D	51
E	49
F	46
G	58

91. Find the populations of village B below poverty line in 1997 is 12160-
(A) 18500
(B) 20500
(C) 22000
(D) 26000

92. The ratio of population of village C below poverty line to that of village G below poverty line in 1997 is-
(A) 11:23
(B) 13:11
(C) 23:11
(D) 11:13

93. If the population of village A in 1997 is 32000, then what will be population of village F below poverty line in the year-
(A) 14100
(B) 17000
(C) 16500
(D) 15600

94. The population of F in 1997 is 30,000. Find the population of D in 1997

(A) 22000

(B) 20000

(C) 15000

(D) 10000

95. If the population of village A is 200000. Find the population of A below poverty line

(A) 76000

(B) 72000

(C) 70000

(D) 80000

Study the table given below and answer the question from 96 to 100.

Year / state	1997		98		99		2000		2001	
	Appeared	Pass	Appeared	Pass	Appeared	Pass	Appeared	Pass	Appeared	Pass
A	520	72	850	98	740	85	680	77	950	112
B	750	84	920	105	845	92	920	98	880	102
C	640	78	880	102	780	89	875	101	975	125
D	810	95	950	124	870	98	970	120	895	99
E	780	87	760	94	980	135	760	94	799	88

96. Combining the states C & D together in 1998. What is the percentage of the candidates qualified in maths Olympiad to that of candidates appeared.

(A) 11.49

(B) 12.35

(C) 12.54

(D) 12.25

97. The percentage of the total number of qualified candidates to the total number of appeared candidates among all the five states in 1999.

(A) 11.84

(B) 11.49

(C) 11.74

(D) 12.57

98. What is the percentage of student qualified for state B for all years together over the student appeared from state B during the years

(A) 11.25

(B) 11.47

(C) 11.15

(D) 12.15

99. What is the average of students appeared from state D during given years.

(A) 870

(B) 970

(C) 899

(D) 999

100. Total number of students qualified from all the states together in 1997 is approximately, what percentage of the total number of candidates qualified from all states together in 1998

(A) 80%

(B) 83%

(C) 82%

(D) 77%