

Previous Years' Paper (Solved)

Assam Rifles Technical & Tradesmen Recruitment Examination

ELEMENTARY MATHEMATICS

- The prime numbers between 1 to 100 are:
A. 20 B. 22
C. 25 D. 30
- Divide ₹ 500 in to two parts such that the ratio of one may be to the other as 2 : 3:
A. 300, 200 B. 200, 300
C. 230, 270 D. 400, 100
- The excess of thrice a certain number over 11 is 19. The number is:
A. 8 B. 9
C. 10 D. 11
- Which of the following is the smallest fraction?
A. $\frac{1}{10}$ B. $\frac{1}{100}$
C. $\frac{9}{1000}$ D. $\frac{500}{10000}$
- The square root of 4.41 is:
A. 0.21 B. ± 0.21
C. 2.1 D. 21
- Compound Interest on ₹ 2000 for 3 years at 5% per annum is:
A. ₹ 300 B. ₹ 315.25
C. ₹ 325.50 D. ₹ 333.75
- The average of five numbers is 5. The average of first four numbers is 4. The fifth number is:
A. 9 B. 8
C. 21 D. 1
- Find the selling price if a fountain pen costing ₹ 6.20 is sold at a loss of 10%.
A. ₹ 6.92 B. ₹ 5.58
C. ₹ 6.00 D. ₹ 5.92
- Two trains start at the same time from 2 stations, X and Y, 900 kms apart and move towards each other at an average speed of 38 and 22 km per hour respectively. They will meet after:
A. 12 hours B. 13 hours
C. 14 hours D. 15 hours
- If 20 men can finish a piece of work in 10 days, how many persons can finish the same job in 04 days?
A. 20 B. 30
C. 40 D. 50
- Which of the following is largest?
A. $(3 + 3 + 3)^2$ B. $[(3 + 3)^2]^2$
C. $(3 \times 3 \times 3)^2$ D. $(9)^2$
- If cost price of 25 pens is equal to sale price of 20 pens, profit percentage will be:
A. 25% B. 15%
C. 20% D. $22\frac{1}{2}\%$
- Area of circle is 154 sq. cm. Its circumference will be:
A. 44 cm B. 48 cm
C. 54 cm D. 68 cm
- If 36% of pupils in a school are girls and number of boys in school is 816. How many girls are there in the school?
A. 816 B. 810
C. 464 D. 459
- LCM of $\frac{7}{90}$, $\frac{14}{15}$ and $\frac{7}{10}$ is:
A. $\frac{14}{5}$ B. $\frac{7}{90}$
C. $\frac{28}{90}$ D. $\frac{14}{90}$
- The face value of 9 in 5249267 is:
A. 1000 B. 9
C. 9000 D. 9267



17. If 10% of x is the same as 20% of y , then $x : y$ is equal to:
 A. 1 : 2 B. 2 : 1
 C. 5 : 1 D. 10 : 1
18. The square root of 73.96 is:
 A. 8.6 B. 0.86
 C. 86 D. None of these
19. Convert 144 km/hour in to m/s:
 A. 40 m/s B. 30 m/s
 C. 10 m/s D. 15 m/s
20. The average of the height of 5 students having height 30, 40, 50, 60, 70 is:
 A. 40 B. 50
 C. 55 D. 45
21. What will be 80% of a number whose 200% is 90?
 A. 144 B. 72
 C. 36 D. None of these
22. HCF of 1485 and 4356 is:
 A. 189 B. 89
 C. 99 B. 83
23. $\frac{69-14 \times 3+2}{9 \times 5-(5)^2}$ equals to:
 A. 1.45 B. 2.75
 C. 26.5 D. 265
24. The cost price of an article which is sold at a loss of 25% for ₹ 150 is:
 A. ₹ 125 B. ₹ 175
 C. ₹ 200 D. ₹ 225
25. X, Y and Z invested ₹ 2400, ₹ 3600 and ₹ 4800 in a business. Out of profit of ₹ 1260, X's share is:
 A. ₹ 280 B. ₹ 420
 C. ₹ 560 D. ₹ 140

ENGLISH/हिन्दी

26. Choose the word that is most nearly opposite in meaning to the word 'clean'.
 A. pure B. dirty
 C. lure D. corrupt
27. Choose the correct synonym for the word 'false'.
 A. inaccurate B. incorrect
 C. untrue D. defective
28. Select the correct synonym for the word 'rival'.
 A. friend B. partner
 C. associate D. opponent
29. Select the correct antonym of the word 'distinct'.
 A. opposite B. different
 C. uniform D. similar
30. Nostalgia is:
 A. anxiety about future
 B. feeling of insecurity
 C. longing for a period in past
 D. an allergy to certain foods
31. The study of history is called:
 A. Anthropology B. Archaeology
 C. Ornithology D. Entomology
32. A large number of people at an event is called:
 A. crowd B. gathering
 C. horde D. melee
33. Select the correct spelling.
 A. exercise B. exercize
 C. exircige D. exircise
34. Which of these is not a vowel?
 A. a B. e
 C. i D. X
35. How many alphabets are there in English language?
 A. 24 B. 25
 C. 27 D. 26
36. Plural of child is:
 A. childrens B. child
 C. children D. children's
37. झोपड़ी का विलोम शब्द क्या है?
 A. खंडहर B. किला
 C. महल D. इमारत
38. मदद को अंग्रेजी में क्या कहते हैं?
 A. help B. trust
 C. faith D. lie

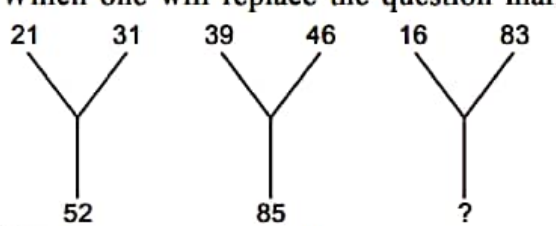
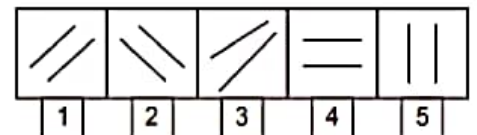
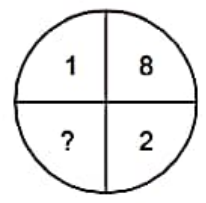
39. Hindi language consists of how many alphabets?
A. 20 B. 16
C. 36 D. 52
40. The police accused him for theft.
A. with B. in
C. of D. no improvement
41. When I entered the room he was lying _____ bed.
A. by B. into
C. with D. in
42. The statement at serial no. 1 and serial no. 6 are fixed. Rearrange P, Q, R and S to form a meaningful statement.
1. Thus it was only after 1858
P. To an almost uniform set of precedents
Q. Virtually be codified into a set of rules
R. This relationship was subjected
S. Conventions and usages which could
6. & regulation.
A. QSPR B. RQSP
C. PRQS D. RPSQ
43. Choose the correct synonym for the word 'alive'.
A. breathing
B. dead
C. defunct
D. inanimate
44. सभी दिशाओं में विजय प्राप्त करने वाले को क्या कहते हैं?
A. अपराजित B. बाजीगर
C. दिग्विजय D. चन्द्रमुखी
45. She is proud _____ her beauty.
A. at B. for
C. upto D. of
46. When he spoke over the phone, his voice was so _____ that I could hardly hear it.
A. faint B. dull
C. dim D. slow
47. It became clear that strangers were heading into a serious disaster.
A. along B. towards
C. for D. no improvement
48. The sentence has been divided into four parts— (a), (b), (c), (d). Out of the four parts one is defective. Select the defective part.
(a) this pen is better / (b) from your pen / (c) as it writes / (d) quite fluently.
A. (d) B. (b)
C. (c) D. (a)
49. If I _____ you, I would save the money.
A. was B. were
C. am D. have been
50. Antonym of word active is:
A. dull B. agile
C. alert D. brisk

GENERAL KNOWLEDGE AND GENERAL AWARENESS

51. The President of India is:
A. Head of the state
B. The Head of the Govt
C. The Head of the State and Govt
D. None of above
52. In India the voting age was reduced from 21 years to 18 years in:
A. 1988 B. 1989
C. 1990 D. 1991
53. The Chief Election commissioner of India holds office:
A. For Six years
B. During the pleasure of President
C. For six years or till the age of 65 years whichever is earlier
D. For five years or till the age of 60 years whichever is earlier
54. Which two states have a common High Court?
A. Haryana and Punjab
B. Gujarat and Maharashtra
C. Himachal Pradesh and Uttar Pradesh
D. Kerala and Tamil Nadu
55. Who was the chairman of constituent assembly of India?
A. Dr B.R. Ambedkar B. Dr Rajendra Prasad
C. Dr BN Rao D. Jawaharlal Nehru

56. Vice President holds office for a period of:
 A. 3 years B. 5 years
 C. 7 years D. 10 year
57. Who was the first Governor General of independent India?
 A. C. Rajagopalachari
 B. Jawaharlal Nehru
 C. Lord Mountbatten
 D. Sardar Patel
58. Who from the following led the uprising of 1857 in Lucknow?
 A. Kunwar Singh B. Tantia Tope
 C. Rani Laxmibai D. Hazrat Mahal
59. Jalliwala Bagh massacre of 1919 occurred at:
 A. Amritsar B. Nagpur
 C. Chandigarh D. Kolkata
60. Swaraj is my birth right and I shall have it. Who said it?
 A. Aurobindo Ghosh
 B. Mahatma Gandhi
 C. Bal Gangadhar Tilak
 D. Subash Chandra Bose
61. First World War broke out in the year:
 A. 1914 B. 1915
 C. 1918 D. 1920
62. Battle of Plassey (23 June, 1757) was fought between:
 A. Meer Jafar and Sirajudaulah
 B. Nawab Sirajudaulah and Britishers
 C. Nawab Sirajudaulah and French
 D. Meer Jafar and Britishers
63. Nagasaki and Hiroshima which witnessed the dropping of nuclear bombs in 1945 are in:
 A. Korea B. China
 C. Japan D. Singapore
64. Of the following Rabi crop is:
 A. Gram B. Ground Nut
 C. Cotton D. Jute
65. The largest producer of coffee in the world is:
 A. Brazil B. Sri Lanka
 C. India D. Myanmar
66. Which of the following countries has the highest percentage of land under cultivation?
 A. USA B. India
 C. China D. Canada
67. Alpaca is an animal found in the:
 A. Deserts
 B. Polar regions
 C. Equatorial regions
 D. Mediterranean regions
68. International Date Line lies on:
 A. 180 degree EW Meridian
 B. 90 degree East Meridian
 C. 90 degree West Meridian
 D. Greenwich Meridian
69. What is the percentage of the total work force employed in agriculture sector in India?
 A. About 50% B. About 56%
 C. About 60% D. About 64%
70. The First Five Year plan was launched in India in the year:
 A. 1947 B. 1951
 C. 1948 D. 1952
71. Which one of the following is a basic industry?
 A. Cotton Textiles B. Iron and Steel
 C. Food-processing D. Petro-chemicals
72. Which of the following is not a part of national income?
 A. Wages and salaries
 B. Profit
 C. Rent
 D. Interest on National debt
73. What is the future fuel?
 A. Ethanol B. Hydrogen
 C. Methane D. Natural Gases
74. The color of a star depends on its:
 A. Surface temperature
 B. Radius
 C. Distance from the sun
 D. Density
75. Average human temperature is:
 A. 40.5 degree centigrade
 B. 36.9 degree centigrade
 C. 98.4 degree centigrade
 D. 82.4 degree centigrade

GENERAL INTELLIGENCE AND REASONING

76. If MADRAS is coded as NBESBT, how is BOMBAY coded in that code.
 A. CPNCBX B. CPNCBZ
 C. CQOCBZ D. None of these
77. Choose the odd one out.
 A. Lion B. Bear
 C. Tiger D. Leopard
78. Which one will replace the question mark?

 A. 92 B. 72
 C. 62 D. 99
79. Arrange the words given below in meaningful sequence.
 1. Key 2. Door
 3. Lock 4. Room
 5. Switch
 A. 5, 1, 2, 4, 3 B. 4, 2, 1, 5, 3
 C. 1, 3, 2, 4, 5 D. 1, 2, 3, 5, 4
80. Look at the series: 2, 1, $\frac{1}{2}$, $\frac{1}{4}$, _____ what number should come next.
 A. $\frac{1}{3}$ B. $\frac{1}{8}$
 C. $\frac{2}{8}$ D. $\frac{1}{16}$
81. Which word does not belong with the others?
 A. Parsley B. Basil
 C. Brinjal D. Mayonnaise
82. B_2CD , _____ BCD_4 , B_5CD , BC_6D . Fill in the blank.
 A. B_2C_2D B. BC_3D
 C. B_2C_3D D. BCD_3
83. Mechanic : Garage :: Professor : ?
 A. Shop B. College
 C. Station D. Hospital
84. Choose the word that is essential part of the underlined word.
Book
 A. Fiction B. Pages
 C. Pictures D. Learning
85. The total of the ages of Amar, Akbar and Anthony is 80 years. What was the total of their age three years ago?
 A. 71 B. 72
 C. 74 D. 77
86. Pointing at the photograph of a boy Suresh said, "he is the son of the only son of my mother". How is Suresh related to that boy?
 A. Brother B. Uncle
 C. Cousin D. Father
87. Fan : Wings :: Wheels : _____ ?
 A. Round B. Moves
 C. Spokes D. Air
88. Choose the figure, which is different from the rest.

 A. 1 B. 2
 C. 3 D. 4
89. If SPIDER is coded as PSDIRE, how is COMMON coded in that code.
 A. OCOMMO B. OCMMNO
 C. OCMOMN D. OCMMON
90. Choose the odd one out.
 A. Bus B. Truck
 C. Cycle D. Scooter
91. Which one will replace the question mark?

 A. 41 B. 64
 C. 35 D. 61

92. Look at the series: V, VIII, XI, XIV, _____, XX what number should come next.
 A. IX B. XXII
 C. XV D. XVII
93. Which word does not belong with the others?
 A. Inch B. Ounce
 C. Centimeter D. Yard
94. Ocean : water : : Glacier : _____ ?
 A. Mountain B. Cave
 C. Refrigerator D. Ice
95. Which word does not belong with the others?
 A. Triangle B. Circle
 C. Oval D. Sphere
96. Choose the pair which is different in relation.
 A. Petrol : Car B. Ink : Pen
 C. Garbage : Dustbin D. Lead : Pencil
97. Introducing a boy, a girl said, "he is son of daughter of the father of my uncle". How is boy related to the girl?
 A. Brother
 B. Nephew
 C. Uncle
 D. Son-in-law
98. QAR, RAS, SAT, TAU, _____ .
 A. UAV B. UAT
 C. TAS D. TAT
99. Tanya is older than Eric
 Cliff is older than Tanya
 Eric is older than Cliff
 If first two statement are true, then third statement is?
 A. True B. False
 C. Uncertain D. None of these
100. Choose the number which will come next in series.
 17, 22, 27, 32, _____ .
 A. 33 B. 35
 C. 38 D. 37

ANSWERS

1	2	3	4	5	6	7	8	9	10
C	B	C	C	C	B	A	B	D	D
11	12	13	14	15	16	17	18	19	20
B	A	A	D	A	B	B	A	A	B
21	22	23	24	25	26	27	28	29	30
C	C	A	C	A	B	C	D	D	C
31	32	33	34	35	36	37	38	39	40
B	A	A	D	D	C	C	A	D	C
41	42	43	44	45	46	47	48	49	50
D	D	A	C	D	A	B	B	B	A
51	52	53	54	55	56	57	58	59	60
A	B	C	A	B	B	C	D	A	C
61	62	63	64	65	66	67	68	69	70
A	B	C	A	A	C	D	A	D	B
71	72	73	74	75	76	77	78	79	80
A	D	D	A	B	B	B	D	C	B
81	82	83	84	85	86	87	88	89	90
D	B	B	B	A	D	C	C	B	C
91	92	93	94	95	96	97	98	99	100
B	D	B	D	A	C	A	A	B	D

EXPLANATORY ANSWERS

1. The prime numbers between 1 to 100 are:
2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43,
47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97
Hence, the number of prime numbers = 25.

$$2. \quad \text{One part} = ₹ 500 \times \frac{2}{2+3} = 500 \times \frac{2}{5} \\ = 100 \times 2 = ₹ 200$$

$$\text{Other part} = 500 \times \frac{3}{2+3} = 500 \times \frac{3}{5} \\ = 100 \times 3 = ₹ 300$$

Hence, the two parts are ₹ 200, ₹ 300.

3. Let the number be x

$$\text{Then, } 3x - 11 = 19$$

$$\therefore 3x = 19 + 11$$

$$\Rightarrow 3x = 30 \Rightarrow x = 10$$

Hence, the required number is 10.

$$4. \text{ A. } \quad \frac{1}{10} = \frac{1}{10} \times 10000 = 1000$$

$$\text{B. } \quad \frac{1}{100} = \frac{1}{100} \times 10000 = 100$$

$$\text{C. } \quad \frac{9}{1000} = \frac{9}{1000} \times 10000 = 90$$

$$\text{D. } \quad \frac{500}{10000} = \frac{500}{10000} \times 10000 = 500$$

Hence, the smallest fraction = $\frac{9}{1000}$.

5. The Square root of $4.41 = \sqrt{4.41} = \sqrt{(2.1)^2} = 2.1$.

6. Given, $P = ₹ 2000$, $n = 3$ years, $r = 5\%$

\therefore Compound Interest

$$= P \left(1 + \frac{r}{100} \right)^n - P = 2000 \left(1 + \frac{5}{100} \right)^3 - 2000$$

$$= 2000 \left[\left(1 + \frac{5}{100} \right)^3 - 1 \right] = 2000 \left[\left(\frac{21}{20} \right)^3 - 1 \right]$$

$$= 2000 \left[\frac{9261}{8000} - 1 \right] = 2000 \left[\frac{9261 - 8000}{8000} \right]$$

$$= 2000 \left[\frac{1261}{8000} \right] = \frac{1261}{4} = ₹ 315.25.$$

7. The sum of five numbers = $5 \times 5 = 25$
and the sum of first four numbers = $4 \times 4 = 16$
Hence, the fifth number = $25 - 16 = 9$.

8. Given, cost price = ₹ 6.20, loss = 10%

$$\therefore \text{ Selling price} = ₹ 6.20 \times \frac{100-10}{100} \\ = 6.20 \times \frac{90}{100} = 6.20 \times \frac{9}{10} \\ = 6.20 \times 0.9 = ₹ 5.58.$$

9. \therefore Relative speed of trains

$$= 38 + 22 = 60 \text{ km per hours}$$

\therefore The required time

$$= \frac{900}{38+22} = \frac{900}{60} = 15 \text{ hours}$$

$$\left[\because \text{Time} = \frac{\text{Distance}}{\text{Speed}} \right]$$

10. Let the required persons be x

Then, Man Day

$$20 : x :: 4 : 10$$

[More man, less day, indirect proportion]

$$\Rightarrow 20 \times 10 = x \times 4$$

$$\Rightarrow x = \frac{20 \times 10}{4} = 50.$$

11. A. $(3 + 3 + 3)^2 = (9)^2 = 81$

B. $\{(3 + 3)^2\}^2 = \{(6)^2\}^2 = (36)^2 = 1296$

C. $(3 \times 3 \times 3)^2 = (27)^2 = 729$

D. $(9)^2 = 81$

Hence, the largest = $1296 = \{(3 + 3)^2\}^2$.

12. Let the cost price of 1 pen be ₹ 1

Then, the cost price of 20 pens = ₹ 20

and the selling price of 20 pens = ₹ 25

$$\text{Profit} = \text{S.P.} - \text{C.P.}$$

$$= 25 - 20 = 5$$

Hence, profit percentage

$$= \frac{\text{Profit} \times 100}{\text{C.P.}} \% = \frac{5 \times 100}{20} \% = 25\%.$$



13. Given, Area of circle = 154 sq. cm

$$\therefore \pi r^2 = 154 \text{ sq. cm}$$

$$\Rightarrow \frac{22}{7} r^2 = 154$$

$$\Rightarrow r^2 = 154 \times \frac{7}{22} = 14 \times \frac{7}{2} = 7 \times 7$$

$$\Rightarrow r^2 = (7)^2 \Rightarrow r = 7 \text{ cm}$$

Hence, its circumference = $2\pi r$

$$= 2 \times \frac{22}{7} \times 7 = 44 \text{ cm.}$$

14. Let the number of pupils in a school be x

$$\text{Then, the number of boys} = x \times \frac{100 - 36}{100}$$

$$\therefore 816 = x \times \frac{64}{100}$$

$$\Rightarrow x = \frac{816 \times 100}{64} = \frac{51 \times 100}{4}$$

$$= 51 \times 25 = 1275$$

Hence, the number of girls in school

$$= x \times \frac{36}{100} = 1275 \times \frac{36}{100} = 1275 \times \frac{9}{25}$$

$$= 51 \times 9 = 459.$$

15. LCM of $\frac{7}{90}$, $\frac{14}{15}$ and $\frac{7}{10}$

$$= \frac{\text{LCM of 7, 14 and 7}}{\text{HCF of 90, 15 and 10}} = \frac{14}{5}.$$

16. The face value of a digit in a numeral is its own value

Hence, the face value of 9 in 5249267 = 9.

17. Given, 10% of x = 20% of y

$$\Rightarrow x \times \frac{10}{100} = y \times \frac{20}{100}$$

$$\Rightarrow 10x = 20y$$

$$\Rightarrow \frac{x}{y} = \frac{20}{10} = 2$$

$$\Rightarrow x : y = 2 : 1$$

18. The square root of 73.96

$$= \sqrt{73.96} = \sqrt{(8.6)^2} = 8.6.$$

$$19. 144 \text{ km/hours} = \frac{144 \times 1000}{60 \times 60} \text{ m/s}$$

$$= 144 \times \frac{5}{18} = 8 \times 5 = 40 \text{ m/sec.}$$

20. The average height of 5 students

$$= \frac{30 + 40 + 50 + 60 + 70}{5} = \frac{250}{5} = 50.$$

21. Let the number be x

$$\text{Then, } x \times \frac{200}{100} = 90$$

$$\Rightarrow x = \frac{90 \times 100}{200}$$

$$\therefore x \times \frac{80}{100} = \frac{90 \times 100}{200} \times \frac{80}{100} = 36$$

Hence, 36 will be 80% of that number.

$$22. 1485 = 3^3 \times 5 \times 11$$

$$\text{and } 4356 = 2^2 \times 3^2 \times 11^2$$

$$\text{Common} = 3^2 \times 11 = 9 \times 11 = 99$$

Hence, HCF of 1485 and 4356 is 99.

$$23. \frac{69 - 14 \times 3 + 2}{9 \times 5 - (5)^2} = \frac{69 - 42 + 2}{9 \times 5 - (5)^2}$$

$$= \frac{71 - 42}{45 - 25} = \frac{29}{20} = 1.45.$$

24. Given, The selling price = ₹ 150

and loss = 25%

$$\text{The cost price} = ₹ 150 \times \frac{100}{100 - 25}$$

$$= 150 \times \frac{100}{75} = 150 \times \frac{4}{3}$$

$$= 50 \times 4 = ₹ 200.$$

25. Ratio of investment

$$X : Y : Z = 2400 : 3600 : 4800$$

$$= 2 : 3 : 4$$

Given, Profit = ₹ 1260

$$X's \text{ share} = 1260 \times \frac{2}{2+3+4} = 1260 \times \frac{2}{9}$$

$$= 140 \times 2 = ₹ 280.$$