

Question Booklet and Answer-Keys Math Instructor

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- (1) 'ਪੋਠੋਹਾਰੀ' ਕੀ ਹੈ :
- (A) ਉਪ-ਭਾਸ਼ਾ (B) ਭਾਸ਼ਾ (C) ਲਿੱਪੀ (D) ਖੇਤਰ
- (2) ਕਾਰਕ ਕਿੰਨੀ ਪ੍ਰਕਾਰ ਦੇ ਹੁੰਦੇ ਹਨ :
- (A) ਪੰਜ (B) ਛੇ (C) ਸੱਤ (D) ਅੱਠ
- (3) ਭੂਤਕਾਲ ਚੁਣੋਂ :
- (A) ਹੈ, ਹਨ (B) ਸੀ, ਸਨ (C) ਗਾ, ਗੀ (D) ਦਾ, ਦੀ
- (4) ਸਹੀ ਸ਼ਬਦ ਚੁਣਕੇ ਮੁਹਾਵਰਾ ਪੂਰਾ ਕਰੋ :
- ਜੰਗਲ ਵਿਚ.....
- (A) ਚੋਰ ਆਉਂਣੇ (B) ਅੱਗ ਲੱਗਣੀ (C) ਮੰਗਲ ਹੋਣਾ (D) ਦੰਗਲ ਹੋਣਾ
- (5) ਕਿਰਿਆ ਦੀਆਂ ਕਿੰਨੀਆਂ ਕਿਸਮਾਂ ਹੁੰਦੀਆਂ ਹਨ :
- (A) ਦੋ (B) ਤਿੰਨ (C) ਚਾਰ (D) ਪੰਜ

Directions (Q.6--8) :- In these questions, four options have been given as the meanings of the underlined idiom/ phrase in each sentence. Choose the expression which best explains the meaning of the underlined idiom/ phrase.

6. Salman Rushdie stirred up a hornet's nest through misrepresentation of religious faith in his novel.
- (A) thrilled the people (B) cautioned the people
(C) excited the hostility of a large number of people (D) entertained the people.
7. As a poet she is s doing her job to keep the wolf off the door.
- (A) to keep her secrets intact (B) to keep protesting against the times
(C) to keep off starvation (D) to keep working with utmost speed.
8. I am afraid you have caught a Tartar in him.
- (A) disclosed his villainy (B) got him punished
(C) slandered him (D) found him more formidable than you expected.

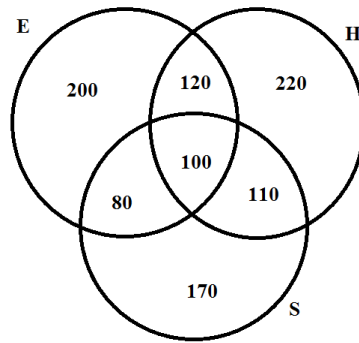
Directions(Q. 9-10):- Choose and mark the underlined part that has an error, out of four options, in each of the following sentences :-

9. The house , with its contents, were insured to the satisfaction of the owners.
- A B C D
10. Of the three, tea, coffee and cocoa, the latter is Pardeep's favourite.
- A B C D
11. Which title did Gandhi ji refuse in protest against the Jalianwala Bagh Massacre?
A) Shere-Punjab B) Kesar-e-Hind C) Hero-of-Punjab D) Kesar-e-vatan
12. What was the age of Guru Gobind Singh when he became Guru?
A) 11 years B) 9 years C) 21 years D) 18 years
13. Treaty of Amritsar was signed between whom and at which place?
A) Between Willian Bentick & Ranjit Singh at Ropar
B) Between Willian Bentick & Ranjit Singh at Lahore
C) Between Shah Jahan & Ranjit Singh at Ropar
D) Between Lord Auckland & Ranjit Singh at Lahore

14. Who is the author of book "My Other Two Daughters"?
- A) Surjit Singh Barnala B) Parkash Singh Badal
C) Sukhdev Singh Dhindsa D) Dalip Kaur Tiwana
15. Who was the founder of Patiala city in 1763 AD?
- A) Baba Budha Singh B) Baba Gandha Singh
C) Baba Ala Singh D) Maharaja Ranjit Singh
16. Punjab Land Records Society (PLRS) was formed by the Punjab Government to
- A) Implement Land Reforms Act
B) To study flaws in Land Records
C) Provide efficient Land Record related services
D) To settle disputes related to land Records
17. Who said, "Ajh Akhan Waris Shah Noo"
- A) Amrita Pritam B) Buleh Shah C) Nazabat D) Waris Shah
18. Punjab consumes what percentage of fertilizer consumption of India
- A) 3% B) 9% C) 1% D) 15%
19. What is the other name of Grand Trunk Road?
- A) Sher Shah Suri Marg B) Genrali Mark C) Link Road D) State Highway
20. What is the longitude of Punjab?
- A) 73.55 degree East to 76.50 degree East
B) 72 degree East to 75 degree East
C) 75 degree East to 70 degree East
D) 71 degree East to 75 degree East
21. Why do migratory birds go back to their earlier habitat in spring? Because of
- A) weather becoming too hot in the regions
B) scarcity of food in the regions to which they have migrated
C) breeding instinct with change in climate and they breed only in their original habitat
D) hunting season commencing in spring
22. National Renewal Fund was constituted for the purpose of:
- A) Providing Pension for retiring employees B) Social security
C) Rural reconstruction D) Restructuring and modernization of industries
23. In which year the Indian rupee was devalued two times within a month?
- A) 1990 B) 1991 C) 1994 D) 1999
24. The inspiration of 'Liberty, Equality and Fraternity' was derived from:
- A) American revolution B) French revolution
C) Russian revolution D) None of the above
25. There is no reservation for the Scheduled Tribes in the Legislative Assemblies of:
- A) Punjab, Gujarat and Himachal Pradesh B) Punjab, Assam and Nagaland
C) Nagaland, Meghalaya and Orissa D) Assam, Nagaland and Meghalaya

26. The word *Varna* is used in the Rig Veda with reference only to:
A) Brahmana B) Dasa C) Kshatriya D) Arya and Dasa
27. An anti British outfit 'Abhinava Bharat' was founded by:
A) R.G. Bhandarkar B) V.D. Savarkar C) C.R. Das D) Sardar Bhagat Singh
28. To complete one revolution in its orbit, the earth takes:
A) one month B) two years C) 6 months D) 12 months
29. To which state the Cauvery Monitoring Committee (CMC) on December 7, 2012 asked to provide Tamil Nadu with 12 thousand million cubic feet of Cauvery water during December 2012 –
A) Karnataka B) Maharashtra C) Andhra Pradesh D) Gujrat
30. Name the Indian nuclear-capable surface-to-surface missile which on September 19, 2012 was successfully test fired from Wheeler Island, off the Odisha Coast?
A) Agni III B) Agni IV C) Prithvi III D) Agni V
31. Choose the odd one out.
A) Arc B) Diagonal C) Tangent D) Radius
32. In a certain code language, '*mxy das zci*' means '*good little frock*'; '*jmx cos zci*' means '*girl behaves good*'; '*nvg drs cos*' means '*girl makes mischief*'; '*das ajp cos*' means '*little girl fell*'. Which word in that language stands for 'frock'?
A) zci B) das C) nvg D) None of these
33. P is the brother of Q and R. S is R's mother. T is P's father. Which of the following statements cannot be definitely true?
A) T is Q's father B) S is P's mother C) P is S's son D) Q is T's son
34. Pointing to a man on the stage, Rashi said, "He is the brother of the daughter of the wife of my husband." How is the man on the stage related to Rashi?
A) Son B) Husband C) Cousin D) Nephew
35. In a group of six women, there are four dancers, four vocal musicians, one actress and three violinists. Girija and Vanaja are among the violinists while Jalaja and Shailja do not know how to play on the violin. Shailja and Tanuja are among the dancers. Jalaja, Vanaja, Shailja and Tanuja are all vocal musicians and two of them are also violinists. If Pooja is an actress, who among the following is both a dancer and a violinist?
A) Jalaja B) Shailja C) Tanuja D) Pooja
36. In a row of boys, A is thirteenth from the left and D is seventeenth from the right. If in this row A is eleventh from the right then what is the position of D from the left?
A) 6th B) 7th C) 10th D) 12th
37. A person starts from a point A and travels 3 km eastwards to B and then turns left and travels thrice that distance to reach C. He again turns left and travels five times the distance he covered between A and B and reaches his destination D. The shortest distance between the starting point and the destination is
A) 12 km B) 15 km C) 16 km D) 18 km

38. A result of a survey of 1000 persons with respect to their knowledge of Hindi (H), English (E) and Sanskrit (S) is given below:



What is the ratio of those who know all the three languages to those who do not know Sanskrit?

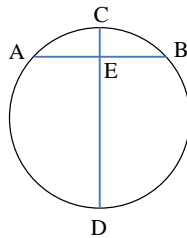
- A) $\frac{1}{9}$ B) $\frac{1}{10}$ C) $\frac{10}{17}$ D) $\frac{5}{27}$
39. In the following, which character when placed at the sign of interrogation shall complete the matrix?

A	M	B	N
R	C	S	D
E	U	F	?

- A) G B) R C) T D) V
40. Nitin was counting down from 32. Sumit was counting upwards the numbers starting from 1 and he was calling out only the odd numbers. What common number will they call out at the same time if they were calling out at the same speed?
A) 19 B) 21 C) 22 D) They will not call out the same number
41. All of the following are the characteristics of effective teacher except
A) emphasizing group discussion B) emphasizing upon standards
C) emphasizing understanding D) differential treatment to students
42. Why should teaching aids be used?
A) to make learning interesting
B) to make students attentive
C) to make class-room environment lively
D) to teach within understanding level of students
43. Before starting new lesson, the previous one should be repeated because
A) the ability of the students is tested
B) new lesson is easily understood if it relates to previous one
C) it is helpful in maintaining discipline in the class
D) students come to school after learning previous lesson
44. Good education is highly helpful in
A) making the person self-dependant B) man's attempt for learning
C) making the person a scholar D) increasing person's prestige

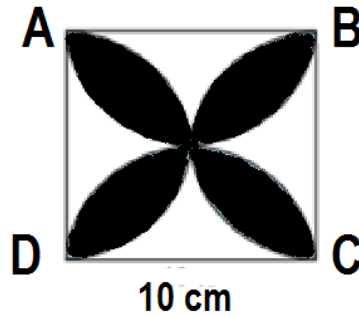
45. The difference between teaching and instruction is
A) interaction between teaching and learner takes place in teaching but not in instructions
B) instruction is lying in teaching act but vice-versa is not true
C) teaching involves all aspects of behavior but instruction is related to constructive aspect only
D) all of the above
46. Learning process is dampened by
A) interest and aptitude B) adjustment ability
C) receptive power D) nervousness
47. For an intrinsically motivated student
A) level of motivation is lower than that of extrinsically motivated one
B) there is no need for formal education
C) rewards are not at all required
D) external rewards are not enough to keep him motivated
48. Through objective type tests to students
A) their knowledge levels cannot be known
B) their abilities cannot be known
C) their abilities of expression and writing styles cannot be known
D) all of above
49. Curriculum can be made more useful by including
A) local knowledge B) Indian history
C) India's geographical knowledge D) India's cultural knowledge
50. A teacher's most precious item is his
A) job B) pay C) student's faith D) dress
51. The standard rules that many e-mail clients use to handle outgoing-mail messages is:
A) SMTP B) STMP C) MIME D) POP-3 e-mail
52. The process of rewriting parts of a file in contiguous sectors on a hard disk to increase the speed of access and retrieval is known as:
A) Format B) Defragmentation
C) File Allocation Table (FAT) D) Configuration
53. What is the difference between a Virus and a Worm?
A) A worm is bigger in size
B) A virus attaches itself to another file, while a worm exists independently
C) A virus can replicate, a worm can't
D) A virus can damage data, a worm can't
54. Which of the following change is not available in MS-PowerPoint custom animation?
A) Entrance B) Exit C) Motion Path D) Time
55. Using 'Find' command in MS-Word, we can search
A) Characters B) Whole Word C) Symbols D) All of the above

56. The non-terminating recurring decimal expression $1.89898989\dots\infty$ is equivalent to
 (A) $\frac{189898989\dots\infty}{100000\dots\infty}$ (B) $\frac{189}{100}$ (C) $\frac{188}{99}$ (D) none of these
57. If $\sqrt{x} + \sqrt{y} = 2\sqrt{3}$ and $\sqrt{x} - \sqrt{y} = 2$ then value of $x - 2\sqrt{3}$ will be
 (A) 4 (B) $\sqrt{3}$ (C) 2 (D) none of these
58. If $y - x = 12$ and $\frac{x+5}{y+5} = \frac{3}{4}$ then the value of $\frac{x}{y}$ will be
 (A) $\frac{19}{10}$ (B) $\frac{29}{45}$ (C) $\frac{43}{31}$ (D) $\frac{31}{43}$
59. The value of $\sqrt{8.2944}$ is
 (A) 28.8 (B) 2.88 (C) 0.288 (D) none of these
60. What is an angle between the minute hand and an hour hand of a clock at 3:30.
 (A) 75° (B) 90° (C) 85° (D) none of these
61. What is the angle subtended by an arc -- of a circle of radius 5 cm -- of length 5 cm.
 (A) $\left(\frac{\pi}{180}\right)^{\circ}$ (B) 60° (C) $\left(\frac{180}{\pi}\right)^{\circ}$ (D) none of these
62. Sum of exterior angles of an n -gon (i.e. a polygon with n sides) is...
 (A) π (B) 2π (C) $\frac{2n\pi}{3}$ (D) none of these
63. A cone has a base diameter 21 cm and its volume is 2310 cm^3 . Calculate its height.
 (A) 10 cm (B) 15 cm (C) 5 cm (D) 20 cm
64. A bucket is in the form of a frustum of a cone of height 16 cm with diameters of its lower and upper ends as 16 cm and 40 cm respectively. What is volume of the bucket?
 (A) 1047 cm^3 (B) 947 cm^3 (C) 1044.92 cm^3 (D) none of these
65. It was observed from the top of a 75 m high light house that the angles of depression of two ships are 30° and 45° respectively. If one ship is exactly behind the other on the same side of light house then what will be the distance between the ships.
 (A) 54.9 m (B) 45 m (C) 65 m (D) none of these
66. In the following figure if diameter CD of the circle is 8 cm and the line segment EC = 0.5 cm then a chord AB, which is perpendicular to the diameter CD, will be

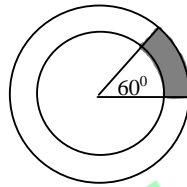


- (A) 45 (B) $\sqrt{15}$ (C) 35 (D) none of these

67. In the following figure ABCD is a square of side 10 cm and semicircles are drawn with each side of the square as diameter. Find area of the shaded portion of the square (use $\pi = 3.14$).



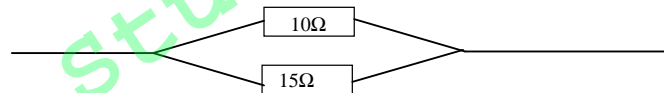
- (A) 55 cm^2 (B) 56 cm^2 (C) 53 cm^2 (D) 57 cm^2
68. Compute area of the shaded portion of the annulus – in the following figure – if the internal and external boundary circles are of radii 7 cm and 9 cm respectively.



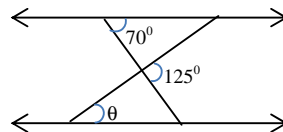
- (A) $\frac{15\pi}{4}$ (B) $\frac{\pi}{3}$ (C) $\frac{16\pi}{3}$ (D) none of these
69. A car weighing 2 quintals and travelling at 15 ms^{-1} is brought to rest in 25 meters by applying breaks. The work done by a force due to breaks is
 (A) 22500 Joules (B) 225 Joules (C) 750 Joules (D) none of these
70. A car moving with speed of 50 km/h is brought to rest in 45 sec. by applying breaks. Find out retardation due to breaks.
 (A) 12 ms^{-2} (B) $10/9 \text{ ms}^{-2}$ (C) 5 ms^{-2} (D) none of these
71. A current of 15 amp flows through a resistance of 10 ohms. Calculate the power consumed.
 (A) 25 KW (B) 55 KW (C) 22.5 KW (D) 2.25 KW
72. A spanner (wrench) of length 30 cm turns a Nut and tightens it with a force of 15 N. Find the value of the torque.
 (A) 4.5 Nm (B) 5.5 Nm (C) 2 Nm (D) none of these
73. A vehicle of mass 500 Kg is on a smooth inclined plane with inclination 30° . Find the force of gravity, parallel to the plane, acting on the vehicle.
 (A) 350 g (B) 250 g (C) 550 g (D) none of these
74. A force of 40 Kg is required to pull a weight of 400 Kg on a horizontal plane. Calculate the coefficient of friction.
 (A) 1 (B) 2 (C) 0.1 (D) none of these

75. A pulley is used to lift a mass with a force of 900N to a height of 10 m in 2 mins. The power consumed is
(A) 73 Watts (B) 83 Watts (C) 79 Watts (D) 75 Watts
76. A stone dropped from a balloon that is ascending at a uniform speed 20 ms^{-1} . If the stone reaches the ground in 40 seconds then the height of balloon at the moment of drop is.
(A) 6040 m (B) 7080 m (C) 8080 m (D) 7040 m
77. A particle is moving according to law $v^2 = 2(x \sin x + \cos x)$; where x is the distance described, then acceleration of the particle is.
(A) $x \cos x$ (B) $x \sin x$ (C) $\cos x$ (D) none of these
78. A particle moves in a straight line with a constant acceleration. During the first second, it moves 17 m and during next two seconds it moves 52 m. What is its acceleration?
(A) 4 ms^{-2} (B) 6 ms^{-2} (C) 8 ms^{-2} (D) none of these
79. What is the angle between forces P and 3P when their resultant is $\sqrt{13}P$.
(A) 40° (B) 50° (C) 60° (D) none of these
80. The moment of a force acting at point P(5, 0), having magnitude 20 units and making an angle of 45° with the positive direction of x -axis, about the origin will be
(A) $80\sqrt{2}$ (B) $50\sqrt{2}$ (C) $70\sqrt{2}$ (D) none of these
81. For what value of K the following pair of equations has infinitely many solutions?
 $Kx + 3y = K - 3$; $12x + Ky = K$
(A) 4 (B) $1/6$ (C) 5 (D) 6
82. The number of integers from 1 to 1000, which are neither divisible by 2 nor by 5 are.
(A) 400 (B) 600 (C) 600 (D) none of these
83. What is 35% of a number if 12 is 15% of a number?
(A) 5 (B) 12 (C) 33 (D) 28
84. The unknown value in the equation $\sqrt{?} \times 7 \times 18 - 4 = 122$ is
(A) 14 (B) 7 (C) 6 (D) none of these
85. When the price of T. V. was reduced by 20%, the sale increased by 80%. What was the net effect on sale value in rupees?
(A) 60% more (B) 44% less (C) 44% more (D) 40% more
86. Father's age is 5 times the age of his son. After 15 years the father will be $2\frac{1}{2}$ times older than his son. What is the present age of the father?
(A) 35 years (B) 45 years (C) 55 years (D) 30 years
87. A cylinder, a cone and a hemisphere are of equal base and have the same height. The ratio of their volumes is
(A) 1 : 2 : 3 (B) 1 : 3 : 3 (C) 3 : 2 : 3 (D) 3 : 1 : 2
88. Three cubes each of side 4 cm are joined end to end. Find the surface area of the resulting cuboid.
(A) 124 cm^2 (B) 214 cm^2 (C) 224 cm^2 (D) 114 cm^2

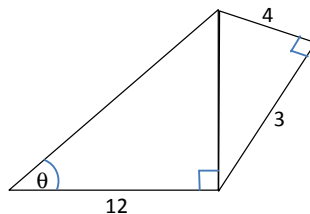
89. If $2^{x+13} = 4^{x+2}$ then x is equal to
 (A) 9 (B) 3 (C) 2 (D) 4
90. $\log_2(100)$ is equal to
 (A) $2 + 2 \log_2 5$ (B) $1 + \log_2 5$ (C) 5 (D) $1 + 2 \log_2 5$
91. The sum of three numbers A, B and C is 98. If $A : B = 2 : 3$ and $B : C = 5 : 8$, then B is
 (A) 14 (B) 24 (C) 30 (D) 40
92. A terminating decimal when expressed in fractional form always have denominator in the form of
 (A) $2^m 3^n; m, n > 0$ (B) $2^m 5^n; m, n > 0$ (C) $5^m 7^n; m, n > 0$ (D) $3^m 5^n; m, n > 0$
93. The lines $x + 2y - 4 = 0$ and $2x + 4y - 12 = 0$ are
 (A) Coinciding (B) Intersecting (C) not planar (D) Parallel
94. The graph of a cubic polynomial intersects x -axis at
 (A) at least 3 points (B) at most 3 points
 (C) 3 points (D) none of these is true
95. A right pyramid 10 m high has a square base for which the diagonal is 10 m. What is volume of the pyramid?
 (A) $166 \frac{2}{3} m^3$ (B) $100 \frac{2}{3} m^3$ (C) $166 m^3$ (D) $100 m^3$
96. If graph of a function $y = f(x)$ is known then graph of $y = f(x-5)$ can be obtained from the graph of $y = f(x)$ by translating it
 (A) 5 units towards upward direction (B) 5 units towards left
 (C) 5 units towards right (D) 5 units towards downward direction
97. What is total resistance in the following circuit?



- (A) $1/6 \Omega$ (B) 6Ω (C) 25Ω (D) none of these
98. In the following figure, value of θ is



- (A) 45^0 (B) 65^0 (C) 35^0 (D) 55^0
99. In the following figure, value of $\cot \theta$ is



- (A) $\frac{5}{12}$ (B) 13 (C) $\frac{13}{12}$ (D) $\frac{12}{5}$
100. Maximum value of $\{\sin \theta + \cos \theta\}$ is
 (A) 2 (B) 1 (C) $\sqrt{2}$ (D) none of these

Answer- Key

Code-MI-8 (Math Instructor)

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