

Seat No.	
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P.G. Entrance Examination, June - 2022

M.C.A. SCIENCE

Sub. Code: 58729

Day and Date : Saturday, 11- 06 - 2022

Total Marks : 100

Time : 10.30 a.m. to 12.00 noon

- Instructions :**
- 1) **All questions are compulsory.**
 - 2) **Each question carries one mark.**
 - 3) **Answers should be marked in the given OMR answer sheet by darkening the appropriate option.**
 - 4) **Follow the instructions given on OMR Sheet.**
 - 5) **Rough work shall be done on the sheet provided at the end of question paper.**

- 1) B2CD, _____, BCD4, B5CD, BC6D.
A) B2C2D
B) BC3D
C) B2C3D
D) BCD7
- 2) Gulalai made her children _____ chores on Sunday.
A) make some
B) take some
C) do some
D) does some
- 3) Which word does NOT belong with the others?
A) circumference
B) area
C) angle
D) quadrilateral
- 4) Anna and Tania went shopping, but _____ couldn't find anything _____ liked.
A) they, those
B) they, them
C) those, they
D) they, they
- 5) Durga is not at home at the moment, She _____ work.
A) is at
B) is on
C) was at
D) was on

P.T.O.

- 6) Vivin _____ gym this evening.
A) will go
B) will gone
C) is going
D) is going to
- 7) Asmat is falling _____ the horse.
A) from
B) of
C) off
D) above
- 8) If you _____ hard, you would not have failed in the exam.
A) have work
B) have worked
C) had work
D) had worked
- 9) If the diagonals of a parallelogram lie along the vectors $3i + j - 2k$ and $i = 3j + 4k$, then the area of the parallelogram is
A) $2\sqrt{3}$
B) $6\sqrt{10}$
C) $3\sqrt{10}$
D) 8
- 10) The value of m for which $y = mx + 6$ is a tangent to the hyperbola $x^2/100 - y^2/46 = 1$ is
A) $\sqrt{17/20}$
B) $\sqrt{19/21}$
C) $\sqrt{21/23}$
D) None of these
- 11) The centre of the ellipse $4x^2 + 9y^2 - 16x - 54y + 61 = 0$ is
A) (3, 2)
B) (2, 3)
C) (4, 2)
D) (1, 1)
- 12) The equation of the plane passing through points (1, -2, 3), (2, -3, 4) and parallel to x-axis is
A) $y + z - 1 = 0$
B) $2y + 3z - 5 = 0$
C) $3y - z + 5 = 0$
D) $3y + z - 2 = 0$
- 13) How many meaningful English words can be made with the letters RTOU using each letter only once in each word?
A) One
B) Two
C) Three
D) None of these

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- 14) The distance between two parallel planes $2x + y + 2z = 8$ and $4x + 2y + 4z + 5 = 0$ is
A) $3/2$ B) $5/2$
C) $7/2$ D) $9/2$
- 15) A bag contains 6 white and 4 black balls, if 2 balls are drawn at random from the bag, then the probability of getting both balls of same color is
A) $21/45$ B) $44/45$
C) $10/45$ D) None of these
- 16) If the probability of occurrence of two events A and B is 0.3 and 0.5 respectively and the occurrence of A and B together is 0.2, then the occurrence neither A and nor B is
A) 0.8 B) 0.6
C) 0.4 D) 0.2
- 17) If the line $x+ky+7=0$ is a diameter to the circle $x^2+y^2-6x+2y=0$ then the value of 'k' is
A) 5 B) 8
C) -5 D) -8
- 18) The proposition $(p \rightarrow q) \rightarrow r$ is given to be true statement. Then the truth values of p,q and r respectively.
A) TTF B) TFT
C) TFF D) FFT
- 19) The equation of a line through (3,-4) and perpendicular to the line $3x+4y=5$ is
A) $4x + 3y = 20$ B) $y - x = -10$
C) $2y - 3x = 20$ D) $3x - 4y = -24$
- 20) The value of $\frac{1}{2} + \frac{1}{4}$ is equal to:
A) $3/4$ B) $3/2$
C) $2/3$ D) 1
- 21) The differentiation of $\sin x$ with respect to $\cos x$ is?
A) $\tan x$ B) $-\tan x$
C) $\cot x$ D) $-\cot x$

- 22) Equation $(x + 1)^2 - x^2 = 0$ has _____ real root(s).
A) 1
B) 2
C) 3
D) 4
- 23) The largest number which divides 70 and 125, leaving remainders 5 and 8, respectively, is
A) 13
B) 65
C) 875
D) 1750
- 24) Safe : Secure :: Protect :
A) Lock
B) Guard
C) Sure
D) Conserve
- 25) The product of a non-zero number and an irrational number is:
A) always irrational
B) always rational
C) rational or irrational
D) one
- 26) Two dice are thrown once. If it is known that the sum of the numbers on the dice was less than 6 the probability of getting a sum 3 is
A) $1/18$
B) $5/18$
C) $1/5$
D) $2/5$
- 27) Feasible region is the set of points which satisfy
A) an objective functions
B) some of the given constraints
C) all of the given constraints
D) none of these
- 28) Of all the points of the feasible region, for maximum or minimum of objective function, the point lies
A) inside the feasible region
B) at the boundary line of the feasible region
C) vertex point of the boundary of the feasible region
D) none of these

- 29) The distance of point (2, 5, 7) from the x-axis is
A) 2
B) $\sqrt{74}$
C) $\sqrt{29}$
D) $\sqrt{53}$
- 30) Area bounded by the curve $y = \sin x$ and the x-axis between $x = 0$ and $x = 2\pi$ is
A) 2 sq units
B) 0 sq units
C) 3 sq units
D) 4 sq units
- 31) What do you call a computer on a network that requests files from another computer?
A) a client
B) a host
C) a router
D) a web server
- 32) The Indian Air Force celebrated its Golden Jubilee in _____.
A) 1962
B) 1972
C) 1982
D) 1992
- 33) NIPUN Bharat Mission is related to _____.
A) School Education
B) Higher Education
C) Tech Innovation
D) Self-defence
- 34) World Environment Day celebrates on _____.
A) 22 March
B) 5 June
C) 23 March
D) 1 April
- 35) Four years ago, the average age of A and B was 18 years. At present, the average age of A, B and C is 24 years. What would be the age of C after 8 years?
A) 30 years
B) 32 years
C) 28 years
D) 25 years

- 36) My elder brother has got a motorbike but I _____.
A) have not B) has not
C) had not D) could not
- 37) A school organized a knockout football competition in which 23 teams played. What was the least number of matches they needed to play to decide the winner?
A) 11 matches B) 62 matches
C) 21 matches D) 22 matches
- 38) For good health, she _____ bed earlier.
A) should go B) should go to
C) should goes D) should goes to
- 39) The day before yesterday was Saturday. What day will it be the day after tomorrow?
A) Tuesday B) Wednesday
C) Thursday D) Friday
- 40) I bought some pictures when I was _____ holiday _____ December, and now I'm going to hang them _____ the wall.
A) in, in, along B) on, for, on
C) on, in, on D) on, in, along
- 41) She took lessons _____ how to swim.
A) learn B) for learning
C) to learn D) learning
- 42) He paid the dining bill _____ a credit card.
A) with B) by
C) in D) for

- 43) Neelam, accompanied by her brother, _____ at the party.
- A) is B) are
C) was D) were
- 44) The man _____ wallet was stolen called the police.
- A) who B) whose
C) whom D) which
- 45) www stands for :
- A) World Wide Wares B) World Wide Wait
C) World Wide Web D) World Wide War
- 46) A group of students decided to go on a picnic and planned to spend Rs. 6000. Four of them did not go on a picnic. As a consequence, each of the remaining had to contribute Rs. 400 extra. The number of students who went on a picnic are
- A) 6 B) 10
C) 8 D) 4
- 47) In how many different ways can the letters of the word ‘CORPORATION’ be arranged so that the vowels always come together?
- A) 810 B) 1440
C) 2880 D) 50400
- 48) In how many different ways can the letters of the word ‘LEADING’ be arranged in such a way that the vowels always come together?
- A) 360 B) 480
C) 720 D) 5040

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- 49) A car owner buys petrol at Rs. 7.50, Rs. 8 and Rs. 8.50 per litre for three successive years. What approximately is the average cost per litre of petrol if he spends Rs. 4000 each year?
- A) Rs. 7.98 B) Rs. 8
C) Rs. 8.50 D) Rs. 9
- 50) I am going _____ to watch a movie.
- A) cinema B) to cinema
C) to a cinema D) to the cinema
- 51) What _____ to drink, tea or coffee?
- A) you would like B) would you like
C) you would liked D) would you liked
- 52) Google (www.google.com) is a:
- A) A search engine B) Number in math
C) Directory of image D) Chat service
- 53) When was the first email sent_____
- A) 1963 B) 1969
C) 1971 D) 1974
- 54) What is the new name of the NASA's SpaceX Crew-4 aircraft?
- A) Inspire B) Freedom
C) Aspiration D) Triumph
- 55) India's first green-field grain-based ethanol plant has been inaugurated in which state/UT?
- A) Gujarat B) Odisha
C) Bihar D) Telangana

- 56) 13-year-old Momiji Nishiya, who recently won gold medal in the Tokyo Olympics, plays which sports?
- A) Gymnastics B) Skateboard
C) Swimming D) Shooting
- 57) Anuradha and Bhushan start walking from the same point. Anuradha goes North and covers 3 km then turns right and covers 4 km. Bhushan goes west and covers 5 km then turns right and covers 3 km. How far apart are they from each other?
- A) 8 B) 5
C) 10 D) 9
- 58) In a maths class Riki divides 60 chalk sticks by half and adds fifteen. What answer does she show, the class?
- A) 129 chalk sticks B) 130 chalk sticks
C) 135 chalk sticks D) 145 chalk sticks
- 59) Not only her parents _____ her class teacher _____ proud of her results.
- A) but also, was B) but also, were
C) and also, was D) and also, were
- 60) She lived _____ Australia _____ 2008 _____ 2015.
- A) in, during, till B) in, between, until
C) in, from, till D) in, from, until
- 61) $\int \cot^2 x dx$ equals to
- A) $\cot x - x + C$ B) $\cot x + x + C$
C) $-\cot x + x + C$ D) $-\cot x - x + C$

62) $\int \frac{1}{\sin^2 x \cos^2 x} dx$ is equal to

- A) $\sin^2 x - \cos^2 x + C$ B) -1
 C) $\tan x + \cot x + C$ D) $\tan x - \cot x + C$

63) The line $y = x + 1$ is a tangent to the curve $y^2 = 4x$ at the point

- A) $(-1, 2)$ B) $(1, 2)$
 C) $(1, -2)$ D) $(2, 1)$

64) If $\begin{vmatrix} 2x+5 & 3 \\ 5x+2 & 9 \end{vmatrix} = 0$, find x .

- A) 13 B) -13
 C) 18 D) -18

65) Set A has 3 elements and the set B has 4 elements. Then the number of injective functions that can be defined from set A to set B is.

- A) 144 B) 12
 C) 24 D) 64

66) The speed of your net access is defined in terms of :

- A) RAM B) MHz
 C) Kbps D) Megabytes

67) How many bits is a byte?

- A) 4 B) 8
 C) 16 D) 32

68) The students in our school are _____ in other schools.

- A) smarter B) smarter than
 C) smarter than those D) more smarter than

- 69) Jivhala' is a special loan scheme launched by which state government?
- A) Andra Pradesh B) Maharashtra
C) Odisha D) West Bengal
- 70) Brass gets discolored in air because of the presence of which of the following gases in air?
- A) Oxygen B) Hydrogen sulphide
C) Carbon dioxide D) Nitrogen
- 71) Entomology is the science that studies
- A) Behavior of human beings
B) Insects
C) The origin and history of technical and scientific terms
D) The formation of rocks
- 72) From a group of 7 men and 6 women, five persons are to be selected to form a committee so that at least 3 men are there on the committee. In how many ways can it be done?
- A) 564 B) 645
C) 735 D) 756
- 73) 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
- 74) A grocer has a sale of Rs. 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs. 6500?
- A) Rs. 4991 B) Rs. 5991
C) Rs. 6001 D) Rs. 6991
- 75) In the first 10 overs of a cricket game, the run rate was only 3.2. What should be the run rate in the remaining 40 overs to reach the target of 282 runs?
- A) 6.25 B) 6.5
C) 6.75 D) 7

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- 76) 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) 20 years
D) Cannot be determined
- 77) The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?
- A) 4 years
B) 8 years
C) 10 years
D) None of these
- 78) A is two years older than B who is twice as old as C. If the total of the ages of A, B and C be 27, the how old is B?
- A) 7
B) 8
C) 9
D) 10
- 79) When she was younger, she _____ five kilometers a day.
- A) walked
B) had walked
C) has been walking
D) had been walking
- 80) A man buys a cycle for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the cycle?
- A) Rs. 1090
B) Rs. 1160
C) Rs. 1190
D) Rs. 1202
- 81) A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?
- A) 3
B) 4
C) 5
D) 6
- 82) In a certain store the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?
- A) 30%
B) 70%
C) 100%
D) 250%

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- 83) The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is:
- A) 15
B) 16
C) 18
D) 25
- 84) If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be:
- A) 4 days
B) 5 days
C) 6 days
D) 7 days
- 85) A alone can do a piece of work in 6 days and B alone in 8 days. A and B undertook to do it for Rs. 3200. With the help of C, they completed the work in 3 days. How much is to be paid to C?
- A) Rs. 375
B) Rs. 400
C) Rs. 600
D) Rs. 800
- 86) A can do a work in 15 days and B in 20 days. If they work on it together for 4 days, then the fraction of the work that is left is :
- A) $\frac{1}{4}$
B) $\frac{1}{10}$
C) $\frac{7}{15}$
D) $\frac{8}{15}$
- 87) A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day?
- A) 12 days
B) 15 days
C) 16 days
D) 18 days
- 88) Two trains running in opposite directions cross a man standing on the platform in 27 seconds and 17 seconds respectively and they cross each other in 23 seconds. The ratio of their speeds is:
- A) 1:3
B) 3:2
C) 3:4
D) None of these

- 89) The length of the bridge, which a train 130 meter long and travelling at 45 km/hr can cross in 30 seconds, is:
- A) 200 m
B) 225m
C) 245 m
D) 250 m
- 90) If I had money, I _____ it now.
- A) will purchase
B) would purchase
C) would have purchased
D) have purchased
- 91) David prefers Economics to Maths, English to Social science, and Political Science to History. If she prefers Maths to History, and Social science to Maths, which is David's least preferred subject?
- A) History
B) Maths
C) Social science
D) Economics
- 92) Look at this series: 53, 53, 40, 40, 27, 27, ... What number should come next?
- A) 12
B) 14
C) 27
D) 53
- 93) In a certain code language, ANIMALS' is written as 'SLAMINA'. How is 'ONLINE' written in that code?
- A) ENILNO
B) OLINEN
C) LNOINE
D) EINONL
- 94) Pen is to poet as needle is to _____
- A) Tailor
B) Thread
C) Sewing
D) Button

- 95) At what angle are the hands of a clock inclined at 15 minutes past 4?
A) 32° B) 37°
C) 32.5° D) 37.5°
- 96) From a certain point, Smriti walks 70 m towards the south. Then, she turns to her right & starts walking straight for another 70 m. Then, again turning to her left he walks for 60 m. She then turns to her left & walks for 70 m. How far is she from the starting point?
A) 120 m B) 150 m
C) 160 m D) 130 m
- 97) Safe : Secure :: Protect :
A) Lock B) Guard
C) Sure D) Conserve
- 98) Which word does NOT belong with the others?
A) index B) glossary
C) chapter D) book
- 99) Choose the word which is not similar to the other words in the group
A) Peas B) Cabbage
C) Spinach D) Cherry
- 100) Pointing to an old woman, Aryan said "Her son is my son's uncle." How is Aryan related to old woman?
A) Mother B) Sister
C) Son D) Daughter



Rough Work