

Seat No.
-------------

Total No. of Pages : 20

**P.G. Entrance Examination, 2024****MCA Science****Subject Code : 58729**

---

**Day and Date : Friday, 17-05-2024****Total Marks : 100****Time : 10:30 am to 12:00 pm**

---

**Instructions :**

- 1) All questions are compulsory.
  - 2) Each question carries 1 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.
- 

Q1. The theme for Earth Day 2024 is .....

- |                        |                         |
|------------------------|-------------------------|
| a) Planet vs. Plastics | b) Invest in Our Planet |
| c) Restore Our Earth   | d) Climate Action       |

Q2. In which city the 18<sup>th</sup> G20 Summit was successfully conducted in India?

- |              |             |
|--------------|-------------|
| a) Mumbai    | b) Varanasi |
| c) New Delhi | d) Chennai  |

Q3. National Road Safety Week in India is observed from .....

- a) March 4<sup>th</sup> to March 10<sup>th</sup>
- b) April 4<sup>th</sup> to April 10<sup>th</sup>
- c) January 1<sup>st</sup> to January 8<sup>th</sup>
- d) 11<sup>th</sup> January to 17<sup>th</sup> January

- Q4. Who is the father of Indian Navy?
- a) Chhatrapati Shivaji Maharaj
  - b) Tipu Sultan
  - c) Maharaja Ranjit Singh
  - d) Chandragupta Maurya
- Q5. Where is the headquarter of the Insurance Regulatory and Development Authority of India (IRDAI)?
- a) Bangalore.
  - b) Chandigarh.
  - c) New Delhi.
  - d) Hyderabad.
- Q6. .... is an autobiography by R. K. Narayan.
- a) My Story
  - b) My Life
  - c) My Days
  - d) My Journey
- Q7. Which country is the host of the World University Games 2023?
- a) India
  - b) China
  - c) Australia
  - d) USA
- Q8. Who won the Padma Vibhushan award in 2024?
- a) Ms. Vyjayantimala Bali
  - b) Ms. Padma Subrahmanyam
  - c) Shri M Venkaiah Naidu
  - d) All of these

Q9. Which is the first state to provide digital health cards for children?

- a) Uttar Pradesh
- b) Assam
- c) West Bengal
- d) Rajasthan

Q10. 'V2X technology", is related to .....

- a) Computer Graphics
- b) Printing Currency notes
- c) Automobile
- d) Electronic Gadgets

Q.11 What was the day on 15th august 1947?

- a) Friday
- b) Saturday
- c) Sunday
- d) Thursday

Q.12 Cup : Lip :: Bird :?

- a) Bush
- b) Grass
- c) Forest
- d) Beak

Q.13 Look at this series: 8, 6, 9, 23, 87, ... What number should come next?

- a) 126
- b) 224
- c) 324
- d) 429

Q.14 If the symbols followed by consonants interchange their positions within the group, then which element is third from the right end?

B @ C 7 N R % 5 \$ G 6 K M & 4 S # P U 5

- a) U
- b) #
- c) P
- d) 5

Q.15 'Cricket' is related to 'Stadium' in the same way 'Badminton' is related to.....

- a) Ring
- b) Yard
- c) Court
- d) Pool

Q.16 The school is hosting a charity fundraiser for a local animal shelter, and the students are encouraged to bring in donations. What kind of donations would be most useful to the shelter?

- a) Money and gift cards to local pet stores.
- b) Cans of food and bags of treats for dogs and cats.
- c) Blankets and towels for the animals to sleep on.
- d) Toys and balls for the animals to play with.

Q.17 If a train travels from Station A to Station B at a speed of 60 mph and returns from Station B to Station A at a speed of 40 mph, what is the average speed for the entire round trip?

- a) 50 mph
- b) 48 mph
- c) 45 mph
- d) 52 mph

Q.18 Statement: Due to increasing pollution, the government has announced that it will ban the use of all single-use plastic products from next month

Courses of Action:

- I. The government should introduce an awareness campaign to encourage people to use eco-friendly products.
- II. The government should provide subsidies to companies that manufacture eco-friendly products.

- a) Only I follows
- b) Only II follows
- c) Neither I or II follows
- d) Both I and II follow.

Q.19 When assessing the truth of a scientific claim, what should be the primary basis?

- a) Personal preference
- b) Experimental data
- c) Social media trends
- d) Fashion trends

Q.20 Poles : Magnet :: ? : Battery

- a) Energy
- b) Power
- c) Terminals
- d) Cells

Q.21 Find the odd one out .....

- a) Libra
- b) Saturn
- c) Mars
- d) Venus

Q.22 IF TRANSFER is coded as RTNAFSRE, then ELEPHANT would be coded as .....

- a) LEPEHATN
- b) LEPEAHTN
- c) LEEPAHTN
- d) LEPEAHNT

Q.23 Pointing to a man in a photograph, a woman said, "His brother's father is the only son of my grandfather." How is the woman related to the man in the photograph?

- a) Sister
- b) Aunt
- c) Grandmother
- d) Daughter



Q.30 Arrange the words given below in a meaningful sequence.

A. Birth, B. Death, C. Graduation, D. Degree, E. School

a) A, B, C, D, E

b) A, E, C, D, B

c) E, C, D, B, A

d) B, A, C, D, E

Q31. 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

Q32 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

Q33. 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

Q34. 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







Q50. Find the number in place of (?) in the following series

15, 31, 63, 127, 255, (...)

a) 513

b) 511

c) 517

d) 523

Q51. Bus drivers ..... driving a lot slower when entering commercial centers.

a) should

b) would

c) should be

d) would be

Q52. Nakita was very tired yesterday, ..... she didn't go to the office.

a) but

b) so

c) such

d) then

Q53. What they are doing does not seem ..... working.

a) be

b) being

c) been

d) to be

Q54. Darsheel and Veeha went shopping, but ..... couldn't find anything ..... liked.

a) they, those

b) they, them

c) those, they

d) they, they

Q55. She succeeded by ..... hard.

a) work

b) working

c) continuous work

d) continuous working

Q56. Ritika made her children .....chores on Sunday.

- a) make some
- b) take some
- c) do some
- d) does some

Q57. On leaving the shopping plaza, Harshika was robbed .....purse.

- a) by her
- b) by hers
- c) of her
- d) of hers

Q58. When she was younger, she .....five kilometres a day.

- a) walked
- b) had walked
- c) has been walking
- d) had been walking

Q59. Write down ..... your name and roll number.

- a) both
- b) either
- c) neither
- d) not only

Q60. He takes his turn, and she takes .....

- a) her
- b) hers
- c) herself
- d) himself

Q61. I cannot come to see you ..... tomorrow.

- a) by
- b) till
- c) until
- d) unless



- Q68. She shall ..... your ice-cream parlour soon because she ..... ice-cream.
- a) Be visiting, like
  - b) Visit, likes
  - c) Have been visiting, is liking
  - d) Visiting, like
- Q69. No, Nishchay is not at home, He ..... just ..... for shopping
- a) had, gone
  - b) has, gone
  - c) was, going
  - d) will have, be going
- Q70. By the end of this May, she ..... in this organisation for thirteen years.
- a) Will work
  - b) Had been working
  - c) Will have been working
  - d) Will be working
- Q71. The perimeter of a triangle ABC is 6 times the arithmetic mean of the sines of its angles. If the side b is 2, then the angle B is .....
- a)  $30^\circ$
  - b)  $90^\circ$
  - c)  $60^\circ$
  - d)  $120^\circ$
- Q72. When the length of the shadow of a pole is equal to the height of the pole, then the elevation of source of light is .....
- a)  $30^\circ$
  - b)  $75^\circ$
  - c)  $60^\circ$
  - d)  $45^\circ$

Q73. The equation of circle whose center is (2, 1) and which passes through the point (3, -5) is:

- a)  $x^2 + y^2 - 4x - 2y - 5 = 0$
- b)  $x^2 + y^2 - 4x - 2y - 32 = 0$
- c)  $x^2 + y^2 - 4x - 2y - 13 = 0$
- d)  $x^2 + y^2 - 4x - 2y - 18 = 0$

Q74. IF A and B are sets and  $A \cup B = A \cap B$ , then .....

- a)  $A = B$
- b)  $A = \Phi$
- c)  $B = \Phi$
- d) none of these

Q75. The universal relation  $A \times A$  on A is .....

- a) anti-symmetric
- b) an equivalence relation
- c) a partial ordering relation
- d) not symmetric and not anti-symmetric

Q76. What is the value of

$$\frac{d}{dx} (e^x \tan x) \text{ at } x = 0?$$

- a) 0
- b) 1
- c) -1
- d) 2

Q77. If  $f(x) = x \cos x$ , then  $f'(0) = ?$

- a) -1
- b) 0
- c) 1
- d) infinity



- Q83. The number of Indians in the world is ..... set
- a) finite
  - b) universal
  - c) infinite
  - d) equal
- Q84. If a matrix A is both symmetric and skew-symmetric, then .....
- a) A is a diagonal matrix
  - b) A is a zero matrix
  - c) A is a scalar matrix
  - d) A is a square matrix
- Q85. The area of a triangle with vertices  $(-3, 0)$ ,  $(3, 0)$  and  $(0, k)$  is 9 sq. units. The value of k will be .....
- a) 9
  - b) 3
  - c) -9
  - d) 6
- Q86. If for the non-singular matrix A,  $A^2 = I$ , then  $A^{-1}$  is .....
- a) A
  - b) 1
  - c) 0
  - d) None of these
- Q87. If  $4x+3y+6z = 25$ ,  $x+5y+7z = 13$ ,  $2x+9y+z = 1$ , then  $z =$ .....
- a) 1
  - b) 3
  - c) -2
  - d) 2

- Q88. The locus represented by  $xy + yz = 0$  is.....
- a) A pair of perpendicular lines
  - b) A pair of parallel lines
  - c) A pair of parallel planes
  - d) A pair of perpendicular planes
- Q89. If  $P(A)=0.4$ ,  $P(b)= 0.8$  and  $P(B|A) = 0.6$ , then  $P(A\cup B)$  equal to .....
- a) 0.24
  - b) 0.3
  - c) 0.48
  - d) 0.96
- Q90. In an ellipse, the distance between its foci is 6 and its minor axis is 8 then its eccentricity is .....
- a)  $4/5$
  - b)  $3/5$
  - c)  $5/3$
  - d)  $1/2$
- Q91. If two circles intersect at two distinct points, what can be said about their centers?
- a) the centers are collinear
  - b) the centers are not collinear
  - c) the centers coincide
  - d) the centers are equidistant
- Q92 How many asymptotes does a hyperbola have?
- a) one
  - b) two
  - c) three
  - d) four

- Q93 Which parameter determines the distance between the center and the vertices of a hyperbola?
- a) eccentricity
  - b) semi-minor axis
  - c) semi-major axis
  - d) focal length
- Q94 In a binomial distribution, each trial has how many possible outcomes?
- a) one
  - b) two
  - c) three
  - d) four
- Q95 Which measure of dispersion is defined as the square root of the variance?
- a) mean deviation
  - b) range
  - c) standard deviation
  - d) inter-quartile range
- Q96 Which protocol is used for secure communication over a computer network?
- a) TCP
  - b) IP
  - c) UDP
  - d) HTTPS
- Q97 Which company developed the Java programming language?
- a) Sun Microsystems
  - b) INTEL
  - c) Oracle
  - d) HP

Q98 Which data structure follows the Last In, First Out (LIFO) principle?

- a) Queue
- b) Stack
- c) Tree
- d) none of these

Q99 What is the purpose of an IP address?

- a) encryption
- b) decryption
- c) identification
- d) HTTPS

Q100 Which network topology connects all devices in a linear sequence?

- a) Bus
- b) Star
- c) Mesh
- d) None of these

◆◆◆