Shivaji University , Kolhapur

Seat No.	

Paper Code(ENT202020)

M.C.A.Entrance Exam , MAY-2020

58729-M.C.A.

Day And Date : Thursday 19/11/2020 **Total Marks :** 100

Time : 10:30 To 12:00

		Marks
1	What is the name of a robot created by India and UK to encourage children to wash their hands? A) Chichi B) Meme C) Pepe D) none of these	1
2	A man invests some money partly in 9% stock at 96 and partly in 12% stock at 120. To obtain equal dividends from both, he must invest the money in the ratio: A) 3 : 4 B) 3 : 5 C) 4 : 5 D) 16 : 15	1
3	In a certain code language if the word ‘MUSEUM’ is coded as ‘LSPAPG’, then how will the word ‘PALACE’ be coded in that language? A) OYIWXY B) OYIXYW C) IYXYWO D) YXWYOI	1
4	A and B are brothers. C and D are sisters, A's son is D's brother. How is B related to C? A) Father B) Brother C) Uncle D) Grandfather	1
5	A man walks 1 km to East and then he turns to South and walks 5 km. Again he turns to East and walks 2 km. After this he turns to North and walks 9 km. Now, how far is he from his starting point? A) 3 km B) 4 km C) 5 km D) 7 km	1
6	9, ..., 18, 28, 27,21,36,14 A) 30 B) 35 C) 40 D) 23	1

7 Handsome : Beautiful : : Husband : ? 1

A) Women

B) Wife

C) Girl

D) She

8 APZLT, CQYNR, ERXPP, GSWRN, ? 1

A) KVIJUJ

B) JUUVK

C) ITVTL

D) KUUVJ

9 If TOUR is written as 1234, CLEAR is written as 56784 and SPARE is written as 90847, find the code for CARE 1

A) 5247

B) 5847

C) 4847

D) none of these

10 Harry set an alarm on his old clock for Thursday 10.30 am. He set his clock correctly on Wednesday 12.30 am. He was unaware that the clock gains 30 min every 51 hours. When his alarm went off what was the actual time. 1

A) 10.58 am

B) 10.10 am

C) 10.50 am

D) 10.30 am

11 4, 10, 28, ?, 244, 730 1

A) 24

B) 77

C) 82

D) 98

12 How many times are the hands of a clock at right angles in 24 hours? 1

A) 22

B) 44

C) 24

D) 48

13 Who has won the Rajiv Gandhi Khel Ratna Award 2019? 1

A) Sakshi Malik

B) Mirabai Chanu

C) Bajrang Punia

D) None of these

14 Select the one which best expresses the given sentence in Passive/Active Voice. 1
I was obliged to go.

A) Circumstances obliges me to go.

B) Circumstances oblige I should go.

C) Circumstances obliged me to go.

D) Circumstances oblige me to go.

15 Give Antonym for following: FICTITIOUS 1

A) Fatal

B) Imaginary

C) Suspicious

D) Novel

16 A light sensitive device that converts drawing, printed text or other images into digital form is 1

A) Keyboard

B) Plotter

C) Scanner

D) OMR

17 By investing Rs. 1620 in 8% stock, Michael earns Rs. 135. The stock is then quoted at: 1

A) Rs. 80

B) Rs. 96

C) Rs. 106

D) Rs. 108

18 Anita and Geeta are experts in dancing and music. Seeta and Geeta are expert in music and painting. Anita and Neeta are expert in debate and dancing. Neeta and Seeta are expert in Painting and debate. Which girl is not expert in painting. 1

A) Anita only

B) Seeta only

C) Anita and Geeta

D) Neeta only

19 If 84 x 13 = 8, 37 x 13 = 6, 26 x 11 = 6 , then 56 x 22 = ? 1

A) 36

B) 7

C) 11

D) none of these

20 Select the one which best expresses the given sentence in Passive/Active Voice. Who can count the stars in the sky? 1

A) By whom could the stars in the sky be counted?

B) By whom could the stars be counted in the sky?

C) By whom can be stars in the sky counted?

D) By whom can the stars in the sky be counted?

21 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 1

A) 5

B) 8

C) -5

D) -8

22 Choose the clause type of the following sentence: Where did you leave the keys? 1

A) declarative

B) exclamative

C) imperative

D) interrogative

23 Choose the clause type of the following sentence: You should brush your teeth. 1

A) declarative

B) interrogative

C) imperative

D) exclamative

24 An automobile financier claims to be lending money at simple interest, but he includes the interest every six months for calculating the principal. If he is charging an interest of 10%, the effective rate of interest becomes: 1

A) 10%

B) 10.25%

C) 10.5%

D) 11%

25 Give Antonym for following: EUPHONY 1

A) Melody

B) Apostrophe

C) Cacophony

D) Entropy

26 Give Antonym for following: BUSY 1

A) Relaxed

B) Engrossed

C) Occupied

D) Engaged

27 Give Antonym for following: ACRID 1

A) Viscous

B) Rancid

C) Livid

D) Sweet

28 Give Antonym for following: STARTLED 1

A) Amused

B) Relaxed

C) Astonished

D) Endless

29 The equation of the parabola having its focus at (3, 0) and directrix $x + 3 = 0$ is 1

A)

$$y^2 = 12x$$

B)

$$y^2 = -12x$$

C)

$$x^2 = 12y$$

D)

$$x^2 = -12y$$

30 1

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)

31 1

The equation of the ellipse passing through the point (-3, 1) and its eccentricity $\sqrt{2/5}$ is

A)

$$3x^2 + 5y^2 = 32$$

B)

$$3x^2 + 5y^2 = 52$$

C)

$$3x^2 + y^2 = 42$$

D)

$$3x^2 + 5y^2 = 62$$

32 The value of m for which $y = mx + 6$ is a tangent to the hyperbola $x^2/100 - y^2/46 = 1$ is 1

A) $\sqrt{17/20}$

B) $\sqrt{19/21}$

C) $\sqrt{21/23}$

D) None of these

33 If the diagonals of a parallelogram lie along the vectors $3i + j - 2k$ and $i = 3j + 4k$, then the area of the parallelogram is 1

A) $2\sqrt{3}$,

B) $6\sqrt{10}$,

C) $3\sqrt{10}$,

D) 8

34 If $\bar{a}$ =i + 2j + 3k, $\bar{b}$ =-i + 2j + k and $\bar{c}$ = 3i + j and t is such that $\bar{a} + t\bar{b}$ is at right angles to $\bar{c}$, then the value of t is 1

A) 5
B) 4
C) 3
D) 2

35 A sum of money at simple interest amounts to Rs. 815 in 3 years and to Rs. 854 in 4 years. The sum is: 1

A) Rs. 650
B) Rs. 690
C) Rs. 698
D) Rs. 700

36 The distance between two parallel planes 2x + y +2z =8 and 4x + 2y + 4z + 5 =0 is 1

A) 3/2
B) 5/2
C) 7/2
D) 9/2

37 The equation of the plane passing through points (1, -2, 3), (2, -3, 4) and parallel to x-axis is 1

A) y + z – 1 = 0
B) 2y + 3z – 5 = 0
C) 3y – z + 5 = 0
D) 3y +z – 2 = 0

38 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 1

A) 21/45
B) 44/45
C) 10/45
D) None of these

39 1

The probability distribution of a random variable X is given by

X	-2	-1	0	1	2	3
P(x)	0.1	K	0.2	2k	0.3	K

Then the value of $P(X \geq 0)$ is

A) 0.4
B) 0.5
C) 0.6
D) 0.8

40 If the function $f(x) = k\cos x/(\pi - 2x)$, when $x \neq \pi/2$ 1

$= 3$, when $x = \pi/2$

Is continuous at $x = \pi/2$, then the value of 'k' is

A) 8
B) 6
C) 10
D) None of these

41 Which of the following launched a 'Digital Literacy Library' providing safety tips for users in six Indian languages? 1

A) Google
B) Apple
C) Facebook
D) none of these

42 The only Indian file which has been included in BBC's 100 best foreign language films list of the 21st century? 1

A) Pather Panchali
B) Baahubali
C) The Big City
D) none of these

43 The Google Research India AI lab will be set up in which city? 1

A) Bengaluru
B) Mumbai
C) Hyderabad
D) none of these

44 Election Commission of India has developed a mobile app, for the 2019 Lok Sabha election. It was named as 1

A) SUVIDHA
B) ENCORE
C) cVIGIL
D) none of these

45 Hero -- A biography of Sachin Remesh Tendulkar was written by _____ 1

A) Ajit Tendulkar
B) Devendra Prabhudesai
C) Vinod Kambali
D) None of these

46 How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest? 1

A) 3.5 years
B) 4 years
C) 4.5 years
D) 5 years

47 Which bank has recently launched a ' Cardless Cash Withdrawal' facility from its ATMs? 1

A) Axis Bank
B) ICICI Bank
C) HDFC Bank
D) none of these

48 1397 x 1397 = ? 1

A) 1951609

B) 1981709

C) 18362619

D) 2031719

49 935421 x 625) = ? 1

A) 575648125

B) 584638125

C) 584649125

D) 585628125

50 Today is Monday. After 61 days, it will be 1

A) Wednesday

B) Saturday

C) Tuesday

D) Thursday

51 The ratio between the perimeter and the breadth of a rectangle is 5 : 1. If the area of the rectangle is 216 sq. cm, what is the length of the rectangle? 1

A) 16 cm

B) 18 cm

C) 24 cm

D) Data inadequate

52 It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010? 1

A) Sunday

B) Saturday

C) Friday

D) Wednesday

53 What was the day of the week on 28th May, 2006? 1

A) Thursday

B) Friday

C) Saturday

D) Sunday

54 A starts a business with Rs. 3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3. What is B's contribution in the capital? 1

A) Rs. 7500

B) Rs. 8000

C) Rs. 8500

D) Rs. 9000

55 A and B started a partnership business investing some amount in the ratio of 3 : 5. C joined then after six months with an amount equal to that of B. In what proportion should the profit at the end of one year be distributed among A, B and C? 1

A) 3 : 5 : 2

B) 3 : 5 : 5

C) 6 : 10 : 5

D) None of these

56 It was dark, however we went out. 1

A) Adjective clause

B) Adverb clause

C) Relative clause

D) Noun clause

57 Excluding stoppages, the speed of a bus is 54 kmph and including stoppages, it is 45 kmph. For how many minutes does the bus stop per hour? 1

A) 9

B) 10

C) 12

D) 20

58 Choose the clause type of the following sentence: Get ready now. 1

A) declarative

B) imperative

C) interrogative

D) exclamative

59 He is such a weak boy that he cannot run. 1

A) Adverb clause

B) Relative clause

C) Adjunct clause (relative clause)

D) Noun clause

60 Give Synonym for following: BRIEF 1

A) Limited

B) Short

C) Little

D) Small

61 Give Synonym for following: VENT 1

A) Opening

B) Past tense of go

C) End

D) Stodge

62 If the line $y = x + k$ is a tangent to hyperbola $9x^2 - 16y^2 = 144$ then the value of k is 1

A)

$+\sqrt{3}$ or $-\sqrt{3}$

B)

$+\sqrt{5}$ or $-\sqrt{5}$

C)

$+\sqrt{7}$ or $-\sqrt{7}$

D)

$+\sqrt{2}$ or $-\sqrt{2}$

63 The area of the parallelogram whose diagonals are given by the vectors $3i + j - 2k$ and $i - 3j + 4k$ is 1

A) $2\sqrt{3}$

B) $5\sqrt{3}$

C) $3\sqrt{2}$

D) $7\sqrt{5}$

64 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 1

A) 0.8

B) 0.6

C) 0.4

D) 0.2

65 1

If $y = \tan^{-1}[(\cos x - \sin x)/(\cos x + \sin x)]$, then dy/dx is

A) -1
B) 1
C) 0
D) None of these

66 1

The dy/dx of $y = \cos^{-1}(\sin x)$ is

A) 0
B) -1
C) 1
D) 1/2

67 If the circumference of a circle changes at rate of 0.2 cm/sec, then the rate at which its area is changing when the radius is 8 cm is 1

A)

$0.25\ cm^2/sec$

B) --

$0.75\ cm^2/sec$

C)

$1.2\ cm^2/sec$

D)

$1.6\ cm^2/sec$

68 A man completes a journey in 10 hours. He travels first half of the journey at the rate of 21 km/hr and the second half at the rate of 24 km/hr. Find the total journey in km. 1

A) 220 km

B) 224 km

C) 230 km

D) 234 km

69 1

The value of the integral $I = \int[\sin x/(1 - \sin x)]dx$ is

A)

$$-x + \sec x - \tan x$$

B)

$$x + \sec x + \tan x$$

C)

$$x - \sec x + \tan x$$

D)

$$-x + \sec x + \tan x$$

The value of $I = \int_0^{\pi/2} \left[\frac{1-tanx}{1+tanx}\right] dx$ is

A) (1/2)log 3
B) (1/3)log 2
C) (1/4)log 2
D) (1/2)log 2

71 The part of the parabola $y^2 = 4ax$ cut off by the latus rectum revolves about the tangent at the vertex. The volume of the solid generated is 1

A) $(3/4)\pi a^3$

B) $(4/5)\pi a^3$

C) $(4/3)\pi a^3$

D) $(5/4)\pi a^3$

72 1

The value of $I = \int_0^{\pi/4} [\frac{1}{1+sinx}]\, dx$ is

A) 2

B)

$2 - \sqrt{2}$

C)

$\sqrt{2}$

D) None of these

73 A language that can be written on one platform and executed on another platform is said to be _____. 1

A) portable

B) robust

C) third generation

D) dynamic

74 Which is a type of Electrically-Erasable Programmable Read-Only Memory? 1

A) Flash

B) Flange

C) Fury

D) FRAM

75 In order to tell Excel that we are entering a formula in cell, we must begin with an operator such as 1

A) $

B) @

C) +

D) =

76 I shall do whatever he says. 1

A) Adjective clause

B) Adverb clause

C) Relative clause

D) Noun clause

77 Give Synonym for following: AUGUST 1

A) Ridiculous

B) Petty

C) Dignified

D) Common

78 Give Synonym for following: ALERT 1

A) Watchful

B) Energetic

C) Observant

D) Intelligent

79 A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour? 1

A) 3.6

B) 7.2

C) 8.4

D) 10

80 Give Antonym for following: ENORMOUS 1

A) Average

B) Tiny

C) Soft

D) Weak

81 Give Antonym for following: ARTIFICIAL 1

A) Solid

B) Truthful

C) Red

D) Natural

82 Give Antonym for following: FRESH 1

A) Stale

B) Disgraceful

C) Sluggish

D) Faulty

83 The proposition (p⌐q)⌐r is given to be true statement. Then the truth values of p, q and r respectively. 1

A) TTF

B) TFT

C) TFF

D) FFT

84 1

If $A = \begin{bmatrix} x & 1 \\ 1 & 0 \end{bmatrix}$ and A^2 is an identity matrix, then the value of 'x' is

A) 2

B) 4

C) 3

D) 0

85 The part of the parabola $y^2 = 4ax$ cut off by the latus rectum revolves about the tangent at the vertex. The volume of the solid generated is 1

A) $(3/4)\pi a^3$

B) $(4/5)\pi a^3$

C) $(4/3)\pi a^3$

D) $(5/4)\pi a^3$

86 'OS' computer abbreviation usually means ? 1

A) Order of Significance

B) Open Software

C) Operating System

D) Optical Sensor

87 What is the name of India's second mission to land on moon? 1

A) Chandrayaan 1

B) Chandrayaan 2

C) Chandrayaan 3

D) none of these

88 The Union Health Minister has launched the official interactive platform called 'COVID INDIA SEVA', in which social media handle? 1

A) WhatsApp

B) Facebook

C) Twitter

D) Telegram

89 A and B invest in a business in the ratio 3 : 2. If 5% of the total profit goes to charity and A's share is Rs. 855, the total profit is: 1

A) Rs. 1425

B) Rs. 1500

C) Rs. 1537.50

D) Rs. 1576

90 If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance traveled by him is: 1

A) 50 km

B) 56 km

C) 70 km

D) 80 km

91 A, B, C subscribe Rs. 50,000 for a business. A subscribes Rs. 4000 more than B and B Rs. 5000 more than C. Out of a total profit of Rs. 35,000, A receives: 1

A) Rs. 8400

B) Rs. 11,900

C) Rs. 13,600

D) Rs. 14,700

92 A man took loan from a bank at the rate of 12% p.a. simple interest. After 3 years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by him was: 1

A) Rs. 2000

B) Rs. 10000

C) Rs. 15000

D) Rs. 20000

93 IF '+' stands for '-' , '-' stands for 'x', 'x' stands for '÷'and '÷'stands for '+'then what is the value of 56x7÷13-11+15-8÷2-7? 1

A) 30

B) 45

C) 60

D) 90

94	An animal always has A) skin B) life C) lungs D) heart	1
95	Cup is to coffee as bowl is to A) dish B) soup C) food D) spoon	1
96	Find odd one A) Swimming B) Sailing C) Diving D) Driving	1
97	Find the odd one out A) Vapour B) Mist C) Hailstone D) Fog	1
98	When a number is divided by 13, the remainder is 11. When the same number is divided by 17, then the remainder is 9. What is the number? A) 339 B) 349 C) 369 D) None of these	1
99	Look at this series: 36, 34, 30, 28, 24, … What number should come next? A) 22 B) 23 C) 26 D) 20	1
100	If Karan says, “Rocky’s mother is the only daughter of my mother”, How is Karan related to Rocky? A) Brother B) Father C) Uncle D) GrandFather	1