

## Karnataka PGCET MCA 2026: Ultimate Mock Test 2

**Instructions:** This comprehensive mock test contains 111 uniquely curated questions mapped precisely to the 2025-26 KEA MCA Syllabus. Each question carries one mark. There is no negative marking.

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### SECTION 1: MATHEMATICS

(Syllabus coverage: Algebra, Co-Ordinate Geometry, Boolean Algebra, Trigonometry, Probability and Statistics)

**1. If a matrix A has an inverse, then the determinant of A is:**

(1) Zero | (2) Non-zero | (3) One | (4) Infinity

**2. The value of  $\log_{10}(1000)$  is:**

(1) 2 | (2) 3 | (3) 10 | (4) 100

**3. The distance between the points  $(0, 0)$  and  $(3, 4)$  is:**

(1) 5 units | (2) 7 units | (3) 12 units | (4) 25 units

**4. In how many ways can the letters of the word 'COMPUTER' be arranged?**

(1)  $8!$  | (2)  $7!$  | (3)  $8! / 2!$  | (4)  $6!$

**5. The equation of a straight line passing through the origin with a slope of 2 is:**

(1)  $y = x + 2$  | (2)  $y = 2x$  | (3)  $x = 2y$  | (4)  $y = 2x + 1$

**6. Evaluate the Boolean expression:  $A \cdot (A + B)$**

(1) B | (2) A | (3) AB | (4) 1

**7. The maximum value of  $\sin(\theta)$  is:**

(1) 0 | (2)  $1/2$  | (3) 1 | (4) Infinity

**8. If a coin is tossed 3 times, what is the probability of getting exactly 2 heads?**

(1)  $1/8$  | (2)  $3/8$  | (3)  $1/2$  | (4)  $5/8$

**9. The arithmetic mean of the first 5 natural numbers is:**

(1) 3 | (2) 4 | (3) 5 | (4) 2.5

**10. Which of the following conic sections is formed by the equation  $y^2 = 4ax$ ?**

(1) Circle | (2) Ellipse | (3) Parabola | (4) Hyperbola

**11. The roots of the quadratic equation  $x^2 - 4x + 4 = 0$  are:**

(1) Real and distinct | (2) Real and equal | (3) Complex | (4) Irrational

**12. In a normal distribution curve, the Mean, Median, and Mode are:**

(1) Zero | (2) Equal to each other | (3) Ascending | (4) Descending

**13. A square matrix in which all non-diagonal elements are zero is called a:**

(1) Identity Matrix | (2) Null Matrix | (3) Diagonal Matrix | (4) Row Matrix

**14. What is the midpoint of the line segment joining  $(4, 6)$  and  $(8, 10)$ ?**

(1)  $(6, 8)$  | (2)  $(4, 4)$  | (3)  $(12, 16)$  | (4)  $(2, 2)$

**15. In Boolean Algebra, the 'De Morgan's Theorem' for  $(A + B)'$  is:**

(1)  $A' + B'$  | (2)  $A' \cdot B'$  | (3)  $A \cdot B$  | (4)  $A' + B$

**16. The value of  $\tan(45^\circ)$  is:**

(1) 0 | (2)  $1/\sqrt{3}$  | (3) 1 | (4)  $\sqrt{3}$

**17. If matrix  $A$  is skew-symmetric, then the diagonal elements are always:**

(1) 1 | (2) -1 | (3) 0 | (4) Any real number

**18. What is the sum of the first 'n' natural numbers?**

(1)  $n(n+1)/2$  | (2)  $n^2$  | (3)  $n(n-1)/2$  | (4)  $2n$

**19. A transformation that slides an object a fixed distance in a given direction is called:**

(1) Rotation | (2) Scaling | (3) Translation | (4) Reflection

**20. The trigonometric identity  $\sin^2(\theta) + \cos^2(\theta)$  is equal to:**

(1)  $\tan^2(\theta)$  | (2) 0 | (3) 1 | (4) -1

**21. In a group of 100 people, 70 speak English, 40 speak Hindi, and 20 speak both. How many people speak neither English nor Hindi?**

(1) 10 | (2) 20 | (3) 0 | (4) 30

**22. If events A and B are mutually exclusive, then the probability of A and B occurring together  $P(A \cap B)$  is:**

(1) 1 | (2)  $P(A) \cdot P(B)$  | (3) 0 | (4)  $P(A) + P(B)$

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## SECTION 2: COMPUTER AWARENESS

*(Syllabus coverage: Computer Basics, Data Representation, Binary Arithmetic, Operating Systems)*

**23. Which data structure strictly follows the First-In-First-Out (FIFO) principle?**

(1) Stack | (2) Queue | (3) Array | (4) Binary Search Tree

**24. What is the 1's complement of the binary number 11001100?**

(1) 00110011 | (2) 00110100 | (3) 11001101 | (4) 00110000

**25. Which of the following is the fastest sorting algorithm in the average case?**

(1) Bubble Sort | (2) Selection Sort | (3) Quick Sort | (4) Insertion Sort

**26. In Object-Oriented Programming, 'Inheritance' allows:**

(1) Hiding data | (2) A class to acquire properties of another class | (3) Multiple methods with the same name | (4) Restricting access to variables

**27. The worst-case time complexity of Linear Search in an array of size  $n$  is:**

(1)  $O(1)$  | (2)  $O(\log n)$  | (3)  $O(n)$  | (4)  $O(n^2)$

**28. Which component is known as the "brain" of the computer?**

(1) RAM | (2) Hard Disk | (3) CPU | (4) Motherboard

**29. The decimal equivalent of the binary number 10101 is:**

(1) 19 | (2) 21 | (3) 23 | (4) 25

**30. Which Operating System scheduling algorithm allocates CPU time in a fixed time slice/quantum?**

(1) First-Come, First-Served (FCFS) | (2) Shortest Job Next (SJN) | (3) Round Robin | (4) Priority Scheduling

**31. Floating-point numbers are represented using the IEEE 754 standard. The three components are:**

(1) Sign, Exponent, Mantissa | (2) Integer, Fraction, Decimal | (3) Base, Radix, Power | (4) Positive, Negative, Zero

**32. The process of starting a computer and loading the Operating System into RAM is called:**

(1) Compiling | (2) Booting | (3) Debugging | (4) Executing

**33. ASCII code is a \_\_\_\_\_ bit code.**

(1) 4 | (2) 7 | (3) 16 | (4) 32

**34. Subtraction of binary 1010 from 1100 yields:**

(1) 0010 | (2) 0110 | (3) 0001 | (4) 0101

**35. A program that translates Assembly Language code into Machine Code is called a/an:**

(1) Compiler | (2) Interpreter | (3) Assembler | (4) Linker

**36. In a Database, a field or combination of fields that uniquely identifies each record in a table is called a:**

(1) Foreign Key | (2) Primary Key | (3) Composite Key | (4) Candidate Key

**37. Which traversal of a Binary Search Tree (BST) outputs the elements in sorted order?**

(1) Pre-order | (2) In-order | (3) Post-order | (4) Level-order

**38. The SQL command used to retrieve data from a database is:**

(1) UPDATE | (2) DELETE | (3) INSERT | (4) SELECT

**39. Virtual Memory is implemented using a technique called:**

(1) Compiling | (2) Paging | (3) Spooling | (4) Multitasking

**40. The hexadecimal equivalent of decimal 255 is:**

(1) EE | (2) FF | (3) 100 | (4) AA

**41. 1 Gigabyte (GB) is equal to:**

(1) 1024 Megabytes (MB) | (2) 1024 Kilobytes (KB) | (3) 1000 Bytes | (4) 1024 Terabytes (TB)

**42. Which of the following acts as an interface between the user and the computer hardware?**

(1) Application Software | (2) Operating System | (3) Compiler | (4) Database

**43. A deadlock in an Operating System occurs when:**

(1) A process runs indefinitely | (2) The CPU overheats | (3) Processes are waiting for each other to release resources | (4) RAM is full

**44. Which logic gate produces a HIGH (1) output only when all its inputs are HIGH (1)?**

(1) OR | (2) XOR | (3) AND | (4) NOT

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## **SECTION 3: ANALYTICAL ABILITY AND LOGICAL REASONING**

*(Syllabus coverage: Logical Reasoning, quantitative reasoning, and visuospatial reasoning)*

**45. [Visuospatial - Dice Logic] Two positions of a dice are shown. When the number '1' is at the top, what number will be at the bottom?**

*[Visual Description: Dice A shows faces 3, 4, 6. Dice B shows faces 2, 4, 5.]*

(1) 2 | (2) 4 | (3) 5 | (4) 6

**46. [Visuospatial - Pattern Completion] Select the figure that completes the matrix:**

*[Visual Description: A 2x2 matrix. Top left: One horizontal line. Top right: Two horizontal lines. Bottom left: One vertical line. Bottom right: ?]*

(1) One horizontal line | (2) Two vertical lines | (3) A cross | (4) Three vertical lines

**47. [Visuospatial - Mirror Image] What is the correct mirror image of the number sequence '2468'?**

*[Visual Description: Option 2 shows the digits flipped horizontally, as if seen in a vertical mirror on the right.]*

(1) 8642 | (2) 8∂DS (flipped digits) | (3) 2468 (upside down) | (4) 8942

**48. Identify the next number in the series: 2, 5, 10, 17, 26, ...**

(1) 35 | (2) 37 | (3) 39 | (4) 41

**49. In a certain code, 'KEYBOARD' is written as 'FMXYLZIW'. How is 'MOUSE' written in that code?**

(1) HLRPV | (2) JNTTF | (3) NPTTF | (4) KMTTE

**50. Pointing to a photograph, a girl said, "He is the son of the only son of my grandfather." How is the man in the photograph related to the girl?**

(1) Brother | (2) Cousin | (3) Uncle | (4) Father

**51. A man faces North. He turns 90 degrees clockwise, then 135 degrees anticlockwise. Which direction is he facing now?**

(1) North-East | (2) North-West | (3) South-East | (4) South-West

**52. If 12 workers can build a wall in 15 days, how many days will it take for 20 workers to build the same wall?**

(1) 8 days | (2) 9 days | (3) 10 days | (4) 12 days

**53. Analogy | Bird : Nest :: Rabbit : \_\_\_\_\_**

(1) Tree | (2) Warren | (3) Web | (4) Den

**54. Five books are stacked on a table. Math is above Physics. Chemistry is below Biology but above Physics. English is at the very bottom. Which book is exactly in the middle?**

(1) Math | (2) Physics | (3) Chemistry | (4) Biology

**55. Statement: All pens are pencils. No pencil is an eraser. Conclusion: I. No pen is an eraser. II. Some pencils are pens.**

(1) Only I follows | (2) Only II follows | (3) Both I and II follow | (4) Neither follows

**56. [Visuospatial - Embedded Figures] Identify the option figure embedded in the 'X' figure.**

*[Visual Description: Figure X is a large triangle containing overlapping internal lines forming a pentagram. Option 3 is an inverted triangle found at the bottom of the pentagram.]*

(1) Option A | (2) Option B | (3) Option C | (4) Option D

**57. What is the angle between the hands of a clock at 8:20?**

(1) 120 degrees | (2) 130 degrees | (3) 140 degrees | (4) 150 degrees

**58. [Data Table Reasoning] A company produces Laptops, Desktops, and Tablets in the ratio 5:3:2. If the total production is 50,000 units, how many Desktops were produced?**

(1) 10,000 | (2) 15,000 | (3) 20,000 | (4) 25,000

**59. If 'P' means '+', 'Q' means '-', 'R' means 'x', and 'S' means '/', evaluate: 16 S 4 R 5 P 10 Q 2**

(1) 28 | (2) 26 | (3) 22 | (4) 30

**60. Find the odd one out:**

(1) Keyboard | (2) Mouse | (3) Monitor | (4) Scanner

**61. A 150m long train crosses a bridge 250m long in 20 seconds. What is the speed of the train?**

(1) 15 m/s | (2) 20 m/s | (3) 25 m/s | (4) 30 m/s

**62. If the 3rd of a month falls on a Friday, what day will it be on the 21st of the same month?**

(1) Monday | (2) Tuesday | (3) Wednesday | (4) Thursday

**63. [Visuospatial - Paper Folding] A rectangular paper is folded in half, and a semi-circle is cut along the folded edge. Unfolded, it shows:**

*[Visual Description: Option 2 shows a rectangle with a full circular hole in the center.]*

(1) Two semi-circles | (2) One full circle | (3) Four semi-circles | (4) A diamond

**64. Complete the series: 1, 4, 9, 16, 25, ...**

(1) 30 | (2) 36 | (3) 49 | (4) 64

**65. In a class of 45 students, A is ranked 15th from the top. What is his rank from the bottom?**

(1) 30th | (2) 31st | (3) 32nd | (4) 29th

**66. Analogy | HTTP : Web Page :: SMTP : \_\_\_\_\_**

(1) File Transfer | (2) Email | (3) Database | (4) Video Streaming

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## **SECTION 4: GENERAL AWARENESS**

*(Syllabus coverage: Business, Finance, Industry, Transportation, Scientific inventions, Governance, Healthcare, Cultural dimensions, Entrepreneurship, Business Communication)*

**67. In startup terminology, "Seed Funding" primarily refers to:**

(1) The final stage of public offering | (2) The initial capital used to start a business | (3) Selling the company to a competitor | (4) Paying off corporate debt

**68. The "Vande Bharat Express" is an initiative related to which sector in India?**

(1) Aviation | (2) Road Transport | (3) Railways | (4) Maritime Shipping

**69. Which scientist is famous for discovering the laws of planetary motion?**

(1) Isaac Newton | (2) Johannes Kepler | (3) Galileo Galilei | (4) Albert Einstein

**70. In Business Communication, "Jargon" refers to:**

(1) A formal letter format | (2) Specialized terminology used by a specific profession or group | (3) Non-verbal cues | (4) A barrier caused by physical distance

**71. Which Indian medical research body is primarily responsible for the formulation and promotion of biomedical research?**

(1) AIIMS | (2) IMA | (3) ICMR | (4) NITI Aayog

**72. An "Intrapreneur" is defined as:**

(1) A person who invests in multiple startups | (2) An employee who promotes innovation within an established organization | (3) A competitor in the same market | (4) A freelancer

**73. The Securities and Exchange Board of India (SEBI) oversees:**

(1) Banking regulations | (2) The stock market and financial securities | (3) Foreign policy | (4) Agricultural subsidies

**74. The Unified Payments Interface (UPI) system in India was developed by:**

(1) SBI | (2) NITI Aayog | (3) NPCI | (4) RBI

**75. "Proxemics" in communication studies the role of:**

(1) Time | (2) Vocal pitch | (3) Physical space and distance | (4) Eye contact

**76. Which city is famously known as the "Financial Capital of India"?**

(1) New Delhi | (2) Bengaluru | (3) Mumbai | (4) Chennai

**77. What does "GDP" stand for in macroeconomics?**

(1) Gross Domestic Product | (2) General Domestic Policy | (3) Global Development Parameter | (4) Gross Dividend Payout

**78. "B2C" stands for:**

(1) Business to Corporate | (2) Business to Consumer | (3) Buyer to Consumer | (4) Broadband to Computer

**79. The Nobel Prize in Medicine is awarded by institutions in which country?**

(1) USA | (2) UK | (3) Sweden | (4) Germany

**80. What does 'IPO' stand for in the context of stock markets?**

(1) Initial Public Offering | (2) Internal Profit Optimization | (3) International Portfolio Organization | (4) Investment Policy Outline

**81. The "Aadhaar" system in India is managed by which authority?**

(1) UIDAI | (2) TRAI | (3) IRDAI | (4) Censor Board

**82. A 'Venture Capitalist' (VC) primarily provides:**

(1) Legal advice to dying companies | (2) Financial capital to early-stage, high-potential startups | (3) Government tax subsidies | (4) Basic banking services

**83. The UNESCO World Heritage site 'Hampi' is located in which Indian state?**

(1) Tamil Nadu | (2) Andhra Pradesh | (3) Kerala | (4) Karnataka

**84. The technology underlying cryptocurrencies like Bitcoin is called:**

(1) Cloud Computing | (2) Blockchain | (3) Machine Learning | (4) Internet of Things (IoT)

**85. The term "Ethnocentrism" in a global business environment refers to:**

(1) Adopting multiple cultural values | (2) Evaluating other cultures according to the preconceptions originating in the standards and customs of one's own culture | (3) Promoting global trade | (4) Ignoring environmental laws

**86. Which famous Indian entrepreneur founded the IT giant Wipro?**

(1) N. R. Narayana Murthy | (2) Azim Premji | (3) Shiv Nadar | (4) Ratan Tata

**87. The "Ayushman Bharat" scheme launched by the Government of India aims to provide:**

(1) Free laptops to students | (2) Health insurance coverage for economically vulnerable

families | (3) Subsidized solar panels | (4) Agricultural loan waivers

**88. "Fiscal Policy" is primarily formulated by:**

(1) The Central Bank (RBI) | (2) The Government (Ministry of Finance) | (3) The Supreme Court | (4) The Stock Exchange

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## SECTION 5: GENERAL ENGLISH

*(Syllabus coverage: Basic grammar, vocabulary, comprehension, synonyms, antonyms, sentence correction, word and phrases, jumbled paragraph)*

**89. Choose the exact synonym for 'MITIGATE'.**

(1) Aggravate | (2) Alleviate | (3) Instigate | (4) Elevate

**90. Choose the exact antonym for 'CANDID'.**

(1) Frank | (2) Deceptive | (3) Sincere | (4) Honest

**91. Choose the grammatically correct sentence.**

(1) Either of the boys are ready. | (2) Either of the boys is ready. | (3) Either of the boy is ready. | (4) Either of the boys were ready.

**92. What is the meaning of the idiom "To let the cat out of the bag"?**

(1) To allow an animal to escape | (2) To reveal a secret carelessly | (3) To clean up a mess | (4) To take on a difficult task

**93. One-word substitution: A person who complies with accepted rules and customs.**

(1) Rebel | (2) Maverick | (3) Conformist | (4) Heretic

**94. Identify the error in the sentence: "The scenery (A) / of Kashmir (B) / are very beautiful (C) / No Error (D)."**

(1) A | (2) B | (3) C | (4) D

**95. Fill in the blank: She was accused \_\_\_\_\_ stealing the money.**

(1) of | (2) for | (3) with | (4) by

**96. Choose the correct passive voice: "The manager will approve the project."**

(1) The project is approved by the manager. | (2) The project will be approved by the manager. | (3) The project would be approved by the manager. | (4) The project has been approved by the manager.

**97. Rearrange the parts (P, Q, R, S) to form a meaningful sentence:**

P: to resolve the error

Q: the software engineer

R: worked all night

S: in the database

(1) Q R P S | (2) R P Q S | (3) Q S R P | (4) P Q R S

**98. Choose the correctly spelled word.**

(1) Occassion | (2) Ocassion | (3) Occasion | (4) Occasssion

**99. Fill in the blank: The company is looking \_\_\_\_\_ to expanding its operations.**

(1) for | (2) out | (3) ahead | (4) forward

**100. Analogy: FISH : AQUARIUM :: BIRD : \_\_\_\_\_**

(1) Tree | (2) Forest | (3) Aviary | (4) Nest

**101. "To break the ice" means:**

(1) To destroy something | (2) To initiate conversation in a socially awkward situation | (3) To act aggressively | (4) To do a difficult job

**102. Replace the underlined phrase to improve the sentence: He *prefer tea than coffee*.**

(1) prefers tea to coffee | (2) preferred tea than coffee | (3) prefers tea over coffee | (4) No improvement

**103. What is the antonym of 'DILIGENT'?**

(1) Hardworking | (2) Lazy | (3) Intelligent | (4) Careful

**104. Fill in the blank: Neither the CEO nor the managers \_\_\_\_\_ present at the meeting.**

(1) was | (2) were | (3) is | (4) has

**105. Choose the correct prefix to make the word 'TOLERANT' opposite in meaning.**

(1) Un- | (2) Dis- | (3) In- | (4) Im-

**106. "To read between the lines" means:**

(1) To read rapidly | (2) To look for a hidden meaning | (3) To ignore the text | (4) To memorize word for word

**107. Complete the sentence: The algorithm depends \_\_\_\_\_ several variables.**

(1) with | (2) for | (3) on | (4) in

**108. Choose the correctly punctuated sentence:**

(1) Its a beautiful day. | (2) It's a beautiful day. | (3) Its' a beautiful day. | (4) It is a beautiful day!

**109. Choose the exact synonym for 'LUCID'.**

(1) Confusing | (2) Clear | (3) Dark | (4) Vague

**110. "A blessing in disguise" means:**

(1) A curse | (2) An obvious stroke of luck | (3) A good thing that seemed bad at first | (4) A secret prayer

**111. One-word substitution: The study of heavenly bodies.**

(1) Astrology | (2) Astronomy | (3) Agronomy | (4) Anatomy

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