

IPU CET 2025 Question Paper

Time Allowed :3 Hours | Maximum Marks :240 | Total Questions :60

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The examination is of **2 hours 30 minutes** duration.
2. The question paper consists of **multiple-choice questions (MCQs)**.
3. The question paper is divided into **four sections** as per the syllabus prescribed for the respective course.
4. The total number of questions in the paper is **100**.
5. Each question carries **4 marks** for the correct answer.
6. **One mark will be deducted** for each incorrect answer.
7. The examination is conducted in **English** language only.
8. All questions are **compulsory**.
9. The maximum marks for the examination are **400**.
10. **Use of calculators, mobile phones, smart watches, or any other electronic devices is strictly prohibited.**
11. Only **one option is correct** for each question. Choose the most appropriate option.
12. Answers must be marked on the **OMR sheet only**.
13. Use of **black or blue ballpoint pen** is allowed for marking answers.
14. Any kind of rough work must be done in the space provided in the question booklet.
15. Candidates must ensure that the OMR sheet is properly filled before submission.
16. In case of any discrepancy or emergency, immediately report to the invigilator.

SECTION A: MATHEMATICS

1. If **A** is a square matrix of order **3** such that the determinant $|A| = 5$, what is the value of the determinant $|2A|$?

(A) 10
(B) 25
(C) 40

(D) 8

2. The value of the limit as x approaches 0 for $\frac{\sin(5x)}{x}$ is

- (A) 1
- (B) 5
- (C) $\frac{1}{5}$
- (D) 0

3. If vector $\vec{a} = 2\hat{i} + m\hat{j} + \hat{k}$ and vector $\vec{b} = \hat{i} - 2\hat{j} + 3\hat{k}$ are perpendicular to each other, then the value of m is

- (A) 2.5
- (B) 3
- (C) 5
- (D) -2

4. Two dice are tossed. The probability that the total score is a prime number is

- (A) $\frac{1}{6}$
- (B) $\frac{5}{12}$
- (C) $\frac{1}{2}$
- (D) $\frac{7}{9}$

5. The derivative of $e^{2x} \sin x$ with respect to x is

- (A) $e^{2x}(\cos x + 2 \sin x)$
- (B) $e^{2x}(\sin x + \cos x)$
- (C) $2e^{2x} \cos x$
- (D) $e^x \sin(2x)$

6. If set A has 3 elements and set B has 4 elements, then the number of injective mappings from A to B is

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

7. The value of $\tan 75^\circ - \cot 75^\circ$ is equal to

- (A) $2\sqrt{3}$
- (B) $2 + \sqrt{3}$
- (C) $2 - \sqrt{3}$
- (D) 1

8. What is the value of i^{99} (where i is the imaginary unit)?

- (A) 1
- (B) -1
- (C) i
- (D) $-i$

9. If the function $f(x) = x^3 - 3x^2 + 6$ is defined on the interval $[0, 4]$, the maximum value is

- (A) 6
- (B) 2
- (C) 22
- (D) 18

10. The integration of $\log x$ with respect to x is

- (A) $\frac{1}{x} + C$
- (B) $x \log x - x + C$
- (C) $x \log x + x + C$
- (D) $\frac{\log x}{x} + C$

11. In a Geometric Progression (G.P.), if the third term is 4, then the product of the first 5 terms is

- (A) 4^3
- (B) 4^4
- (C) 4^5
- (D) None of these

12. If A is a symmetric matrix, then the transpose of A' is equal to

- (A) $-A$
- (B) A
- (C) Identity Matrix
- (D) Null Matrix

13. The slope of the tangent to the curve $y = 3x^4 - 4x$ at $x = 4$ is

- (A) 764
- (B) 768
- (C) 500
- (D) 256

14. From a pack of 52 cards, two cards are drawn at random. What is the probability that both are Kings?

- (A) $\frac{1}{15}$
- (B) $\frac{25}{57}$
- (C) $\frac{1}{221}$
- (D) $\frac{1}{13}$

15. The number of ways in which the letters of the word “APPLE” can be arranged is

- (A) 120
- (B) 60
- (C) 24
- (D) 100

16. The value of $\sin 20^\circ \times \sin 40^\circ \times \sin 60^\circ \times \sin 80^\circ$ is

- (A) $\frac{3}{16}$
- (B) $\frac{1}{8}$
- (C) $\frac{3}{8}$
- (D) $\frac{3}{32}$

SECTION B: COMPUTER AWARENESS

17. The “brain” of the computer system is

- (A) RAM
- (B) Hard Disk
- (C) CPU
- (D) Motherboard

18. Which of the following is considered volatile memory?

- (A) ROM
- (B) RAM
- (C) HDD
- (D) Flash Drive

19. IPv4 addresses are how many bits long?

- (A) 16 bits
- (B) 32 bits
- (C) 64 bits
- (D) 128 bits

20. The binary equivalent of the decimal number 10 is

- (A) 1010
- (B) 1001
- (C) 1110
- (D) 1100

21. Which file extension is typically used for Python script files?

- (A) .py
- (B) .pt
- (C) .java
- (D) .exe

22. “HTML” stands for

- (A) Hyper Text Making Language
- (B) Hyper Text Markup Language
- (C) High Tech Markup Language

(D) Hyper Text Management Logic

23. In Microsoft Excel, the intersection of a row and a column is called a

- (A) Box
- (B) Table
- (C) Cell
- (D) Grid

24. First-generation computers used which technology?

- (A) Transistors
- (B) Integrated Circuits
- (C) Vacuum Tubes
- (D) Microprocessors

25. 1024 Kilobytes (KB) is equal to

- (A) 1 MB
- (B) 1 GB
- (C) 1 TB
- (D) 1 Byte

26. Which key combination is universally used to “Undo” an action?

- (A) Ctrl + C
- (B) Ctrl + V
- (C) Ctrl + Z
- (D) Ctrl + X

27. Which of the following is NOT an Operating System?

- (A) Linux
- (B) Oracle
- (C) DOS
- (D) Windows

28. The ASCII value of the character ‘A’ is

- (A) 64
- (B) 65
- (C) 97
- (D) 90

29. In a flowchart, a diamond-shaped symbol represents

- (A) Processing
- (B) Input/Output
- (C) Decision
- (D) Terminator

30. Which logic gate returns TRUE only if both inputs are TRUE?

- (A) OR Gate
- (B) NAND Gate
- (C) XOR Gate
- (D) AND Gate

31. What is the full form of SQL?

- (A) Structured Question Language
- (B) Standard Query Logic

- (C) Structured Query Language
- (D) Simple Query Logic

32. 1 Byte is equal to

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

33. Which data structure works on the principle of LIFO (Last In First Out)?

- (A) Queue
- (B) Stack
- (C) Linked List
- (D) Tree

SECTION C: GENERAL KNOWLEDGE (IT SCIENCE)

34. Who is known as the father of the World Wide Web (WWW)?

- (A) Bill Gates
- (B) Tim Berners-Lee
- (C) Steve Jobs
- (D) Vint Cerf

35. The “Blue Screen of Death” (BSOD) is typically associated with errors in which Operating System?

- (A) macOS
- (B) Linux

- (C) Microsoft Windows
- (D) Unix

36. Which gas is most abundant in the Earth's atmosphere?

- (A) Oxygen
- (B) Carbon Dioxide
- (C) Nitrogen
- (D) Hydrogen

37. “ChatGPT” was developed by which organization?

- (A) Google
- (B) Meta
- (C) OpenAI
- (D) Microsoft

38. Light year is a unit of

- (A) Time
- (B) Distance
- (C) Light intensity
- (D) Mass

39. The headquarters of ISRO is located in

- (A) Mumbai
- (B) New Delhi
- (C) Bengaluru
- (D) Chennai

40. Who is the current CEO of Google (Alphabet Inc.)?

- (A) Satya Nadella
- (B) Sundar Pichai
- (C) Mark Zuckerberg
- (D) Elon Musk

41. The SI unit of Electric Power is

- (A) Joule
- (B) Volt
- (C) Watt
- (D) Ampere

42. Which planet is known as the “Red Planet”?

- (A) Venus
- (B) Jupiter
- (C) Mars
- (D) Saturn

43. “PDF” stands for

- (A) Portable Document Format
- (B) Public Document File
- (C) Printable Data Format
- (D) Personal Data File

44. Which element is used as a semiconductor in computer chips?

- (A) Copper
- (B) Silicon
- (C) Iron
- (D) Silver

45. Who invented the telephone?

- (A) Thomas Edison
- (B) Alexander Graham Bell
- (C) Nikola Tesla
- (D) Albert Einstein

46. The chemical formula for common salt is

- (A) H_2O
- (B) NaCl
- (C) KCl
- (D) CO_2

47. Which social media platform was formerly known as Twitter?

- (A) Threads
- (B) X
- (C) Mastodon
- (D) Telegram

SECTION D: ENGLISH LANGUAGE COMPREHENSION

48. Choose the synonym of “Candid”.

- (A) Deceptive
- (B) Frank

- (C) Secretive
- (D) Ambiguous

49. Identify the error in the sentence: “One of the boys are missing from the class.”

- (A) One of
- (B) the boys
- (C) are missing
- (D) from the class

50. The idiom “To burn the midnight oil” means

- (A) To waste resources
- (B) To work late into the night
- (C) To start a fire
- (D) To create trouble

51. Select the correctly spelt word.

- (A) Acommodate
- (B) Accommodate
- (C) Acomodate
- (D) Accomodate

52. Choose the correct antonym of “Optimistic”.

- (A) Hopeful
- (B) Pessimistic
- (C) Idealistic
- (D) Realistic

53. Select the word which is the exact OPPOSITE of “Artificial”.

- (A) Red
- (B) Natural
- (C) Truthful
- (D) Solid

54. Fill in the blank with the correct preposition: “He is fond ____ playing cricket.”

- (A) with
- (B) of
- (C) in
- (D) at

55. One who knows everything is called

- (A) Omnipresent
- (B) Omnipotent
- (C) Omniscient
- (D) Optimist

56. Find the correctly spelt word.

- (A) Embarassment
- (B) Embarrassment
- (C) Emberrassment
- (D) Embarrasment

57. Change the voice: “The cat killed the mouse.”

- (A) The mouse is killed by the cat.
- (B) The mouse was killed by the cat.
- (C) The mouse has been killed by the cat.
- (D) The mouse had killed the cat.

58. The idiom “A piece of cake” means

- (A) A tasty dessert
- (B) Something very easy to do
- (C) Something very expensive
- (D) A part of a plan

59. Synonym of “Brief” is

- (A) Long
- (B) Short
- (C) Complex
- (D) Detailed

60. Spot the error: “I prefer coffee than tea.”

- (A) I prefer
- (B) coffee
- (C) than
- (D) tea
