

IPU CET 2025 Question Paper

Time Allowed :3 Hours	Maximum Marks :240	Total Questions :60
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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
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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
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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
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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) $\frac{1}{16}$
- (C) $\frac{3}{32}$
- (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
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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
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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
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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
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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) H₂O
- (B) NaCl
- (C) KCl
- (D) CO₂

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
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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) Accomodate
 - (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.
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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
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59. Synonym of “Brief” is

- (A) Long
 - (B) Short
 - (C) Complex
 - (D) Detailed
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60. Spot the error: “I prefer coffee than tea.”

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