



### TEST SERIES – JEE /NEET 2026 PATTERN

PART TEST -03

TEST BOOKLET CODE: CS15 - PT-03

Student Name: \_\_\_\_\_

Roll No. : \_\_\_\_\_

Time: 1 Hour

Maximum Marks: 60

Date: \_\_\_\_\_

#### Syllabus: Mathematics (Part Syllabus)

#### INSTRUCTIONS:

1. Immediately fill in the particulars on this page of the Test Booklet with Blue/Black Ball Point Pen. Use of pencil is strictly prohibited.
2. The test is of 1 hour duration.
3. The Test Booklet consists of 15 questions. The maximum marks are 60.
4. There are three parts in the question paper consisting of Part-A Mathematics (Q.no. 1 to 15). Each part is divided into two sections, **Section-I** consists of 10 multiple choice questions & **Section-II** consists of 5 Numerical value answer Questions.

Part	Section-I MCQ Type	Section-II Numeric Answer Type	Total
A-Mathematics	10	5	15
<b>Total</b>	<b>10</b>	<b>5</b>	<b>15</b>

5. There will be only one correct choice in the given four choices in Section-I. For each question 4 marks will be awarded for correct choice, 1 mark will be deducted for incorrect choice and zero mark will be awarded for unattempted question for both Section-I and II.
6. Use Blue/Black Ball Point Pen only for writing particulars/markings responses on Side-1 and Side-2 of the Answer Sheet. Use of pencil is strictly prohibited.
7. No candidate is allowed to carry any textual material, printed or written, bits of papers, pager, mobile phone, any electronic device, etc. except the Admit Card inside the examination hall/room.
8. Rough work is to be done on the space provided for this purpose in the Test Booklet only.
9. On completion of the test, the candidate must hand over the Answer Sheet to the Invigilator on duty in the Room/Hall. However, the candidates are allowed to take away this Test Booklet with them.
10. Do not fold or make any stray marks on the Answer Sheet.

#### COURSES OFFERED:

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- Online /Offline Study Material i.e. DPP and Topic-wise Test-Bank Packages for Engineering & Medical Entrance examination.



### PART TEST 2026

#### PART-A: MATHEMATICS

##### Section-I (Multiple Choice Questions)

- If  $z$  be a complex number satisfying  $|\operatorname{Re}(z)| + |\operatorname{Im}(z)| = 4$ , then  $|z|$  cannot be
  - $\sqrt{\frac{17}{2}}$
  - $\sqrt{10}$
  - $\sqrt{7}$
  - $\sqrt{8}$
- If  $\operatorname{Re}\left(\frac{z-1}{2z+i}\right) = 1$ , where  $z = x + iy$ , then the point  $(x, y)$  lies on a
  - Circle whose centre is at  $\left(-\frac{1}{2}, -\frac{3}{2}\right)$
  - Straight line whose slope is  $-2/3$ .
  - Straight line whose slope is  $3/2$ .
  - Circle whose diameter is  $\sqrt{5}/2$
- If  $\frac{3 + i \sin \theta}{4 - i \cos \theta}$ ,  $\theta \in [0, 2\pi]$ , is a real number, then an argument of  $\sin \theta + i \cos \theta$  is
  - $\pi - \tan^{-1}(4/3)$
  - $\pi - \tan^{-1}(3/4)$
  - $-\tan^{-1}(3/4)$
  - $-\tan^{-1}(4/3)$
- Let  $A = \{1, 2, 3, \dots, 20\}$ . Let  $R_1$  and  $R_2$  two relation on  $A$  such that
$$R_1 = \{(a, b) : b \text{ is divisible by } a\}$$
$$R_2 = \{(a, b) : a \text{ is an integral multiple of } b\}$$
. Then, number of elements in  $R_1 - R_2$  is equal to
  - 55
  - 46
  - 23
  - None of these
- Let  $[\alpha]$  denote the greatest integer  $\leq \alpha$ . Then  $[\sqrt{1}] + [\sqrt{2}] + [\sqrt{3}] + \dots + [\sqrt{120}]$  is equal to .....
  - 825
  - 725
  - 826
  - 726
- The number of points, where the curve  $f(x) = e^{8x} - e^{6x} - 3e^{4x} - e^{2x} + 1$ ,  $x \in \mathbb{R}$  cuts  $x$ -axis, is equal to \_\_\_\_\_.
  - 1
  - 2
  - 3
  - 4

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7. If  $a$  and  $b$  are the roots of the equation

$$x^2 - 7x - 1 = 0, \text{ then the value of } \frac{a^{21} + b^{21} + a^{17} + b^{17}}{a^{19} + b^{19}}$$

is equal to \_\_\_\_\_

- (a) 49
- (b) 50
- (c) 51
- (d) 61

8. Let  $m$  and  $n$  be the numbers of real roots of the quadratic equations  $x^2 - 12x + [x] + 31 = 0$  and  $x^2 - 5|x + 2| - 4 = 0$  respectively, where  $[x]$  denotes the greatest integer  $\leq x$ . Then  $m^2 + mn + n^2$  is equal to \_\_\_\_\_.

- (a) 9
- (b) 10
- (c) 11
- (d) 12

9. If the value of real number  $a > 0$  for which  $x^2 - 5ax + 1 = 0$  and  $x^2 - ax - 5 = 0$  have a common real root is  $\frac{3}{\sqrt{2\beta}}$  then  $\beta$  is equal to \_\_\_\_\_

- (a) 10
- (b) 11
- (c) 12
- (d) 13

10. Let  $\alpha_1, \alpha_2, \dots, \alpha_7$  be the roots of the equation

$$x^7 + 3x^5 - 13x^3 - 15x = 0 \text{ and } |\alpha_1| \geq |\alpha_2| \geq \dots \geq |\alpha_7|.$$

Then  $\alpha_1\alpha_2 - \alpha_3\alpha_4 + \alpha_5\alpha_6$  is equal to \_\_\_\_\_

- (a) 7
- (b) 8
- (c) 9
- (d) 10

### Section-II (Numerical Value Type Questions)

11. Let  $\alpha \in \mathbb{R}$  and let  $\alpha, \beta$  be the roots of the

equation  $x^2 + 60^{\frac{1}{4}}x + a = 0$ . If  $\alpha^4 + \beta^4 = -30$ , then the product of all possible values of  $\alpha$  is \_\_\_\_\_

12. Let  $\lambda \in \mathbb{R}$  and let the equation  $E$  be  $|x|^2 - 2|x| + |\lambda - 3| = 0$ . Then the largest element in the set  $S = \{x + \lambda : x \text{ is an integer solution of } E\}$  is \_\_\_\_\_

13. Suppose  $\sum_{r=0}^{2023} r^2 {}^{2023}C_r = 2023 \times a \times 2^{2022}$ . Then the value of  $a$  is \_\_\_\_\_

14. The number of 9 digit numbers, that can be formed using all the digits of the number 123412341 so that the even digits occupy only even places, is \_\_\_\_\_

15. A boy needs to select five courses from 12 available courses, out of which 5 courses are language courses. If he can choose at most two language courses, then the number of ways he can choose five courses is \_\_\_\_\_

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