

## JEE MAIN MECHANICAL PROPERTIES OF SOLIDS — HOOKE'S LAW AND STRESS–STRAIN CURVE — PYQS

Max. Marks: 12

Questions: 3

### Section A (MCQ) — 1 question

- Q.1** A massless spring gets elongated by amount  $x_1$  under a tension of 5 N. Its elongation is  $x_2$  under the tension of 7 N. For the elongation of  $(5x_1 - 2x_2)$ , the tension in the spring will be,

[JEE Main 2025 (Online) 23rd January Evening Shift]

- (1) 20 N    (2) 39 N    (3) 11 N    (4) 15 N

Scan or tap for the  
full solution



### Section B (Numerical) — 2 questions

- Q.2** The length of a light string is 1.4 m when the tension on it is 5 N. If the tension increases to 7 N, the length of the string is 1.56 m. The original length of the string is \_\_\_\_\_ m.

[JEE Main 2025 (Online) 2nd April Evening Shift]

Scan or tap for the  
full solution



- Q.3** An elastic spring under tension of 3 N has a length a. Its length is b under tension 2 N. For its length  $(3a - 2b)$ , the value of tension will be \_\_\_\_\_ N.

[JEE Main 2024 (Online) 4th April Morning Shift]

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full solution



## ANSWER KEY

### Section A (MCQ) — 1 question

|       |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Ques. | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ans.  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |

### Section B (Numerical) — 2 questions

|       |   |   |  |  |  |  |  |  |  |  |  |  |  |  |
|-------|---|---|--|--|--|--|--|--|--|--|--|--|--|--|
| Ques. | 2 | 3 |  |  |  |  |  |  |  |  |  |  |  |  |
| Ans.  | 1 | 5 |  |  |  |  |  |  |  |  |  |  |  |  |