



**NATIONAL OFFICERS ACADEMY**  
**Mock-5 for CSS2025**  
**October 2024**  
**GENERAL KNOWLEDGE-I**  
**GENERAL SCIENCE AND ABILITY**

**TIME ALLOWED: THREE HOURS**

**PART-II**

**MAXIMUM MARKS = 80**

**NOTE:**

- i. Part-II is to be attempted on the separate Answer Book.**
- ii. Attempt ONLY FOUR questions from PART-II by selecting TWO questions from EACH SECTION. ALL questions carry EQUAL marks.**

**PART-II**  
**SECTION-I**

**Q. No. 2**

- a. What is dengue? Give a brief account of its causative agents and its symptoms.
- b. Explain dark matter and dark energy.
- c. Discuss structure and function of mitochondria. How is it the powerhouse?
- d. What are covalent bonds? Explain types along with elaborating structures.

**Q. No. 3**

- a. What is lunar eclipse? Explain in detail with apt diagrams.
- b. Explain function of enzymes in detail with examples.
- c. Give a brief account of electromagnetic radiations. What is EMR spectrum?
- d. Are earthquakes and volcanic eruptions interconnected? If yes, then how?

**Q. No. 4**

- a. What is noise pollution? Give its harmful effects and ways to curb.
- b. What is the importance of fibers in diet? How would be a platter of food considered balanced?
- c. Elaborate drinking water quality and standards.
- d. Explain Lithosphere. What are rocks and minerals?

**Q. No. 5**

- a. Give structure and functions of human brain. Why is it the control center?
- b. What is DRM? Explain its situation in Pakistan.
- c. Write a short note elaborating fat soluble vitamins.
- d. What is your understanding of internet standards?

**SECTION-II**

**Q. No. 6**

- a. Determine the “k” value if the arithmetic mean of 9, 8, 10, k, 12 is 15.
- b. A mixture contains sugar solution and colored water in the ratio of 4 : 3. If 10 liters of colored water is added to the mixture, the ratio becomes 4: 5. Find the initial quantity of sugar solution in the given mixture.
- c. What will be the volume of a football with a radius of 12 cm?
- d. Given a Series -10, -8, 6, 40, 102, ?  
Find what number would come in place of the question mark (?)

**Q. No. 7**

- a. If 20% of  $x = y$ , what is the value of  $y\%$  of 20 in terms of  $x$ ?
- b. P and Q have an average monthly salary of Rs. 5050. Q and R have an average monthly income of Rs. 6250, while P and R have an average monthly income of Rs. 5200. Find the monthly salary of P
- c. Two coins are tossed 500 times, and we get:  
Two heads: 105 times  
One head: 275 times

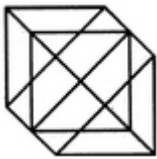
No head: 120 times

Find the probability of each event to occur.

- d. Jamie's dad is 4 times older than Jamie. In 14 years time, Jamie's dad will be twice the age of Jamie. What is the sum of Jamie's age now and Jamie's dad's age now?

**Q. No. 8**

- a. Brian is a window cleaner. He uses the following formula to calculate the amount to charge his customers:  
Charge = £20 + 4n  
Where n is the number of windows a house has .If a house has 7 windows, how much would Brian charge?
- b. Find out the correct word from the given jumbled spellings:  
(i) ralciiep (ii) tyhniaum (iii) arsehcc (iv) moniteah (v) tareph
- c. Verify the A union B complement formula  $(A \cup B)' = A' \cap B'$  for the sets  $A = \{10, 11, 12, 13, 15\}$ ,  $B = \{10, 12, 14\}$  and  $U = \{10, 11, 12, 13, 14, 15, 16, 18\}$
- d. Find the number of triangles in the given figure.



\*\*\*\*\* *Good Luck for CSS2025*\*\*\*\*\*