



**NATIONAL OFFICERS ACADEMY**  
**Mock Exams CSS-2022**  
**October 2021 (Mock-6)**  
**GENERAL KNOWLEDGE-I**  
**GENERAL SCIENCE AND ABILITY**

<b>TIME ALLOWED: THREE HOURS</b>	<b>PART-I (MCQS)</b>	<b>MAXIMUM MARKS = 20</b>
<b>PART-I(MCQS): MAXIMUM 30 INUTES</b>	<b>PART-II</b>	<b>MAXIMUM MARKS = 80</b>

**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 acid rain? Describe its causes and how it can be prevented?
- b. Distinguish between smoke and smog.
- c. Describe the cell structure. Write down at least 3-differences between animal cell and plant cell.
- d. Write a note on balanced diet.

**Q. No. 3**

- a. Distinguish between gamma rays, x-rays and infra-red, write some of their uses.
- b. Semi-Conductors are brain of electronics and CPU is brain of computer. Comment.
- c. What are the causes of earthquakes, explain plate tectonics.
- d. What are the geo-stationary satellites? How are satellites launched?

**Q. No. 4**

- a. What are the functions of Pupil and Iris in human eye? How short sightedness can be corrected?
- b. Distinguish between the structures of Neurons and Nephrons.
- c. Write some of the preventive measures to get rid of Dengue.
- d. Distinguish between GPS and G.I.S.

**Q. No. 5**

- a. What is Black Hole? How it is formed?
- b. Draw the structure of water molecule. Why it is angular in structure?
- c. Global warming is a non-conventional threat, what are the ways to counter it in regard to COP-26?
- d. Discuss any three renewable sources of energy.

**SECTION-II**

**Q. No. 6**

- a. Ashar spends 30% of his income on food articles, 40% of remaining on clothes and saves 50% of the remaining. If monthly salary is 84000 rupees. How much money does he save every month?
- b. Verify any Demorgan's law for the following set:  
 $A=\{2,4,6\}$      $B=\{2,3,6\}$ ,     $U=\{1,2,3,4,5,6\}$
- c. Look at the series and fill the blank:  
Q1F, S2E, U6D, W21C, \_\_\_\_\_
- d. A letter is chosen at random from the word "Superintendent". What is the probability that it is a vowel?

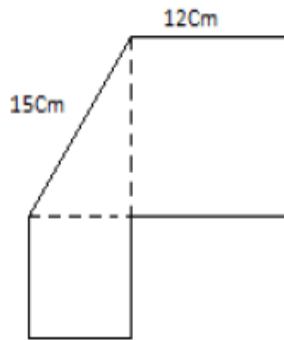
**Q. No. 7**

- a. If 12 years are added to  $\frac{2}{3}$  the age of Ayesha, she will be 3-years older than today. What is her present age?
- b. One morning after sunrise, Amina was standing facing a pole. The shadow falls exactly to her right, to which direction was she facing?
- c. Liza has two pieces of thread, one 7-feet long and other 14-feet long. For a sewing project, she needs to cut them up to produce many pieces of thread that are all of same length, with no thread left over. What is the greatest length that she can make of the pieces?

- d. The front row of a movie theatre has 23 seats. If you were asked to sit in the seat that occupied the mean position, on which seat you have to sit?

**Q. No. 8**

- a. Police officers are in pursuit of a stolen vehicle. Officer Baker is directly behind the stolen car. Officer Lopez is behind Baker; Officer O'Malley is behind Lopez. Officer Reinhart is ahead of the stolen car and coming from the opposite direction. Officer Reinhart makes a U-turn and joins the pursuit. He pulls in behind Officer Lopez. Officer Baker pulls up on the driver's side of the stolen vehicle and Officer Lopez pulls up on the other side. Which officer is directly behind the vehicle?
- b. In a certain code language LANDMINE is written as PYRBQGRC. How will HOMEMADE be written in that code language?
- c. Divide Rs.500 between Arham, Mariam and Sarim so that Arham gets  $\frac{2}{3}$  of what Mariam gets and Mariam gets  $\frac{1}{4}$  of what Sarim gets. Find the share of each.
- d. Calculate the total area and perimeter of the given shape.



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*We wish you good luck for CSS-2022!*