



NATIONAL OFFICERS ACADEMY
Mock-7 for CSS2024
November 2023
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. Pakistan suffered a loss of \$40bn due to heavy floods of 2022; in this context climate finance is the central question for developing countries. Discuss in the light of COP-28 going to start in UAE.
- b. Distinguish water-soluble and fat-soluble vitamins. Give examples of diets containing different vitamins.
- c. Explain the structure of Eye.
- d. Draw a flow chart of different parts of Brain.

Q. No. 3

- a. Global warming is a wild beast and we all are poking at it which sticks, justify.
- b. What is the origin of universe, how age of universe can be calculated?
- c. Write a short note on semi-conductors.
- d. What is eclipse? Distinguish between solar and lunar eclipse.

Q. No. 4

- a. Define the following:
Pesticides, Herbicides, Insecticides, Ceramics, and Green House Effect.
- b. Explain the bonding in water molecule.
- c. What types of waves are used in RADAR, SONAR, LIDAR, Mobile Phone and Thermistors?
- d. What are advantages and disadvantages of AI?

Q. No. 5

- a. Draw a block diagram of input and output devices of Computer.
- b. Define optics. How does an optical fiber work?
- c. Discuss different methods of Solid Waste Management.
- d. Distinguish GPS & GIS.

SECTION-II

Q. No. 6

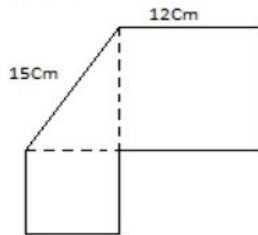
- a. A farmer cuts a 300 ft. fence into two pieces of different sizes. The longer piece should be four times as long as the shorter piece. How long are the two pieces?
- b. If a rectangle has a length that is three more than twice the width and the perimeter is 20-inches, what are the dimensions of the rectangle?
- c. A cricket team won 60% of the total matches it played during the year. If it lost 24 matches in all and no matches were drawn, find the number of matches played during the year.
- d. Two numbers are in the ratio 3: 2. If 2 is added to the first and 6 is added to the second number, they are in the ratio 4: 5. Find the numbers.

Q. No. 7

- A concert hall 400 seats of which 325 are occupied. Express the attendance at a percent of capacity.
- If 30-persons use 40kg of sugar in 10 days. Find in how many days 80-persons will use 320kg of sugar?
- A crow travels south 5km, and then 3km west, and then 4km north. Finally travels 2km south-east. How far is the crow from initial point?
- If radius of a cylinder is 10cm and height is 36cm. Find the volume of cylinder.

Q. No. 8

- If in a certain language, BROTHER is written as QDGSNQA, then in the same language, SISTER would be written as -----?
- A card is drawn at random from a box containing 12 cards numbered 1,2,3,4,5,.....,12. Find the probability of drawing (i) '8', (ii) an even number, (iii) a perfect square, (iv) a negative number and (v) a number less than 13.
- Calculate the total area and perimeter of the given shape.



- There are nine students in a group having ages 15, 15, 16, 16, 16, 17, 17, 18, 19. Calculate **mean, medium, mode and range** of their ages, also define the above mentioned terms.

***** *Good Luck for CSS2024******