



NATIONAL OFFICERS ACADEMY
Mock Exams CSS-2022
September 2021 (Mock-5)
GENERAL KNOWLEDGE-I
GENERAL SCIENCE AND ABILITY

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 INUTES	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. More people have access to mobile phones than have access to toothbrushes. Explain the working of Mobile Phones and the importance of IT in the modern world.
- b. How does the Global Positioning System work?
- c. The rampant use of pesticides, under the adage, “if little is good, a lot more will be better” has played havoc with human and other life forms. Explain the direct impact of pesticides on human health.
- d. Give two examples of things we encounter in life that are ionic compounds and two examples of things that are covalent compounds.

Q. No. 3

- a. What are the five stages of disaster risk management cycle? Are these stages properly followed in Pakistan?
- b. How temperature affects indoor humidity level? Why is maintaining a healthy humidity level important?
- c. What is the difference between Transpiration and Photosynthesis?
- d. The increase in the popularity of various weight loss plans have compromised the concept of Balanced diet. What are the essentials for maintaining Balanced Diet?

Q. No. 4

- a. Draw and explain the structure of Eye. Also label its parts.
- b. Some of the countries of the world add fluoride in drinking water for preventing tooth decay. What level of fluoride should be maintained in drinking water? Are there any other remedial measures for preventing tooth decay?
- c. Explain how Corona Virus attacks the immune system. Also, explain how various vaccines work against the virus?
- d. What are the basic causes of Food Deterioration? How can this problem be addressed?

Q. No. 5

- a. What is Electron Configuration? Write down Electron Configuration of Calcium – 20 and Cesium – 55.
- b. Wind Power is a type of renewable energy source. Is the wind power effectively used in Pakistan?
- c. Briefly explain the formation of Acid Rain.
- d. How rise in global temperature and the use of CO₂ can be addressed? Explain with reference to the international agreements.

SECTION-II

Q. No. 6

- a. It takes 6 hours for pump A, used alone, to fill a tank of water. Pump B used alone takes 8 hours to fill the same tank. We want to use three pumps: A, B and another pump C to fill the tank in 2 hours. What should be the rate of pump C?
- b. A wine-seller had three types of wine. 403 liters of 1st kind, 434 liters of 2nd kind and 465 liters of 3rd kind. Find the least possible number of casks of equal size in which different types of wine can be filled without mixing.
- c. Kashif walks 10 km towards north. From there, he walks 6 km towards South. Then he walks 3 km towards East, how far and in which direction is he with reference to his starting point?

- d. An inheritance of Rs.14,00,000 is to be divided among Ali, Ahmed and Amir in the following manner that Ahmed is to receive $\frac{6}{7}$ of what Ali receives, while Amir gets $\frac{1}{7}$ of what Ali gets. How much does each receive?

Q. No. 7

- a. In a bag, there are a certain number of toy-blocks with alphabets A, B, C and D written on them. The ratio of blocks A: B: C: D is in the ratio 4:7:3:1. If the number of 'A' blocks is 50 more than the number of 'C' blocks, what is the number of 'B' blocks?
- b. When a grizzly bear hibernates, its heart rate drops to 10 beats per minute, which is 20% of its normal value. What is a grizzly bear's normal heart rate when not hibernating?
- c. Kinza is putting on sunscreen. She uses 3 ml³ to cover 45 cm² of her skin. She wants to know how many millilitres of sunscreen she needs to cover 240cm² of her skin. She assumes the relationship between millilitres of sunscreen and area is proportional. How many millilitres of sunscreen does Kinza need to cover 240 cm² of her skin?
- d. A survey was taken on 30 classes at a school to find the total number of left-handed students in each class. The table below shows the results:

No of classes	1	2	5	12	8	2
No. of left-handed students in each class	0	1	2	3	4	5

Given that the total number of students in the 30 classes is 960, find the probability that a student randomly chosen from these 30 classes is left-handed.

Q. No. 8

- a. Find what comes next in the number series:
- 5, 9, 10, 14, 15, 19, _____
 - 4, 16, 36, 64, 100, _____
 - 60, 55, 45, 30, _____
 - 3, 7, -6, 11, -9, 15, _____
 - 4, 7, 12, 15, 20, _____
- b. In a certain code language, "CONSTRUCTION" is written as "EMPQVPWAVGQL". What will be the code for "DESTRUCTION" in the same language?
- c. At a family reunion, there were only blood relatives, consisting of children, parents, and grandparents, in attendance. There were 400 people total. There were twice as many parents as grandparents, and 50 more children than parents. How many children, parents, and grandparents were in attendance?
- d. Study the data given below and answer the following questions:
 'Royal Monarch Regal' is written as @ # *,
 'Regal legacy Gold' is written as * % ?,
 'Hope Gold Life' is written as % & \$,
 'Regal Monarch Morals' is written as # * √
- What will be the code for Regal?
 - What will be the code for "Gold Legacy"?
 - Which word is coded as #?
 - In the given coded language, which of the following words has been coded as &?
 - What is the code for royal?

We wish you good luck for CSS-2022!