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. What are geo-stationary satellites? Distinguish natural & artificial satellites, how many artificial satellites of Jupiter are there?
b. What is Nibble? Briefly explain CPU, Motherboard, RAM and ROM.
c. How does an optical fiber work?
d. Artificial intelligence has revolutionized the world. Explain.

Q. No. 3
a. What are the most suitable methods which can be employed in solid waste management of the country?
b. Write a note on remote sensing & G.I.S?
c. Explain covalent bond on the structure of water molecule.
d. In which city COP-27 was held in Nov. 2022? What were the main points discussed in COP-27 compare it with COP-26.

Q. No. 4
a. Define Coriolis force. Distinguish cyclone & tornado.
b. What are renewable sources of energy, discuss some of the sources of this energy under CPEC projects with their generation capacity.
c. What are main causes of floods? How floods of 2022 were different from super floods of 2010? Explain role of NDMA in this regard.
d. Differentiate star & planet. How a star becomes a black hole?

Q. No. 5
a. Explain with examples the relationship between cells, tissues and organs.
b. Explain the differences in structure & function between a cell wall and a cell membrane.
c. What is meant by transpiration? Explain in detail the significance of leaf structure in the process of transpiration.
d. What is meant by the term double circulation? Briefly describe how the heart is adapted to keep blood flowing in a double circulation.
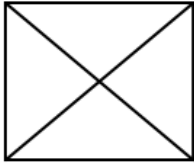
SECTION-II

Q. No. 6
a. Average of 11 numbers is 63, that of 1st 6 numbers is 60 & last 6 numbers is 65.Find the 6th number.
b. Identify the series
i. 4, 18, _____, 100, 180, 294
ii. 48, 24, 72, 36, 108, _____
c. Find the correct word from the given words:
i. SRHEA
ii. AIVIRGNE

d. A person's present age is two-fifth of the age of his mother. After 8 years, he will be one half of the age of his mother. How old is the mother at present?

Q. No. 7

a. Find the number of Triangle below figure.

b. A bag contain 2kg of apples & 3kg of grapes. Find the ratio of quantities present & percentage occupied by each.

c. A scooty is sold for Rs. 13600 & fetches a loss of 15%. Find the cost price of the scooty.

d. Dome of rock is Jerusalem is of deep religious & historical importance for Muslims in an octagonal structure with each side of 18 meters. Find the perimeter of Dome of Rock.

Q. No. 8

a. I drove 50km towards east from a city "S" & then turned right & drove another 30km. Now, I turned to my left and drove another 30km to reach a city "F". Find the shortest distance between cities "S" & "F".

b. How I.Q is calculated? What are the factors which affect I.Q?

c. A swimming pool can be filled by a pipe A in 3 hours and by pipe B in 6 hours. At 09:00am pump A is started. At what time swimming pool be filled if 'B' is started at 10:00am?

d. If the ratio of chocolates to ice-cream cones in a box is 5:8 and the number of chocolates is 30. Find the number of ice-cream cones.

***** *We wish you Good Luck for CSS-2023*****