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. Explain the formation of lunar eclipse with the help of a diagram. Differentiate between partial and total lunar eclipse.
  b. Black holes are one of the most mysterious and powerful forces in the universe. Define the term black hole. What is its composition? What is your understanding of an Event Horizon?
  c. Recently, Pakistan was shaken by 4 quakes of magnitude 5.0 or above, 35 quakes between 4.0 and 5.0, 58 quakes between 3.0 and 4.0, and 34 quakes between 2.0 and 3.0. What can be the probable reasons of such frequent earthquakes? What is a seismograph? Is it possible to estimate an earthquake beforehand?
  d. What is a renewable source of energy? How LED lighting is different from other light sources?

Q. No. 3
  a. What is Polio? What are the causes and the symptoms of polio? Differentiate between IPV and OPV.
  b. Name the two parts of the Nervous System? Briefly describe CNS. Describe Alzheimer Disease.
  c. What is optical fiber? Write its principles.
  d. Carbohydrates are the major source of energy for the cells. Describe their structure, function and classification.

Q. No. 4
  a. What is solid waste management? What is the National Solid Waste Management Strategy in Pakistan? Suggest methods to improve the abysmal situation of SWM in Pakistan.
  b. What is GIS? What are the components of GIS?
  c. Pakistan is the fifth most populous country of the world. What are the causes of population explosion in Pakistan? What can be the control measures?
  d. What are Montreal and Kyoto protocols? What is carbon market?

Q. No. 5
  a. Liver is a chief chemist. Comment
  b. Discuss importance of preservatives and antioxidants in food.
  c. Greenhouse Effect is a blessing. Comment
  d. How do you think that the artificial intelligence has revolutionized the world?

SECTION-II

Q. No. 6
  a. It takes 3 litres of liquid to cover an area of 24 square meters. What percentage increase in the quantity of paint would be required to cover an area of 100.8 square meters?

b.   An automobile travels 4 km towards south, 5 km towards west, 6 km towards the north and 3 km towards the southeast. How far is it from its starting point?

c.   Khalid started a business with a capital of Rs. 25,000. After 5 months Akram also joined him with an investment of Rs. 50,000. At the start of the 9th month, Sohail joined them by investing Rs. 75,000. At the end of the year, they earned a profit of Rs. 60,000. Find the share of each one.

d.   In a morning walk three persons step-off together. Their step measure 75cm, 80cm & 90cm respectively. What is the minimum distance each should walk so that all can cover the same distance?

Q. No. 7

a.   Ishaq can do a tailoring job in 6 hours. Abbas does the same job in 4 hours. Irfan does it in 8 hours. Ishaq and Abbas start doing the work. Abbas leaves after 2 hours and Irfan replaces him. How long would it take to complete the work?

b.   A farmer needs to build a boundary wall around his farm. If the area of the farm is 576m^2, what will be the area of the wall, if it's 2 meters high on 3 sides and 3 meters high on one side?

c.   There are 7 students in a group having ages 18, 18, 19, 19, 19, 21, 21. Calculate the mean median mode and range of their ages. Also, define these mentioned terms.

d.   How does mental ability skills differ from IQ test?

Q. No. 8

a.   Find the number of triangles in the following two images.

b.   Blood groups of inhabitants of a village were checked, it was found that 600 people possessed blood group A, 650 had blood group B, 550 had blood group AB and 200 have blood group I. Calculate the probability of having blood group B. Calculate the probability of having blood group O.

c.   A group of 50 men can construct a 20 km road in 40 days. How long will 70 men take to complete the same length of the road?

d.   In a certain code language, if FRAGRANCE is written as SBHSBODFG, how will IMPOSING be written in that code language?

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<p style="text-align:center">*We wish you good luck for CSS-2022 !*</p>