EDERAL PUBLIC SERVICE COMMISSION
TIVE EXAMINATION-2024 FOR RECRUITMENT TO
IN BS-17 UNDER THE FEDERAL GOVERNMENT
KNOWLEDGE-I (GENERAL SCIENCE & ABILITY)

TIME ALLOWED: THREE HOURS	**(PART-I MCQs) MAXIMUM MARKS: 20**
PART-I (MCQs) : MAXIMUM 30 MINUTES	**(PART-II) MAXIMUM MARKS: 80**

NOTE: (i) First attempt **PART-I (MCQs)** on separate **OMR Answer Sheet** which shall be taken back after **30 minutes.**
(ii) Overwriting/cutting of the options/answers will not be given credit.
(iii) There is **no negative** marking. All MCQs must be attempted.

PART-I (MCQs)(COMPULSORY)

Q.1. (i) Select the best option/answer and fill in the appropriate Box ■ on the **OMR Answer Sheet. (20x1=20)**
(ii) Answers given anywhere else, other than OMR Answer Sheet, will not be considered.

1. **In fish liver oil there is:**
(A) Vitamin A only (B) Vitamin D only (C) Vitamin A and vitamin E (D) Vitamin A and Vitamin D
2. **When day and night are equal?**
(A) 23rd February and 21st September (B) 21st march and 23rd September
(C) 23rd march and 21st September (D) None of these
3. **What are total number of combinations of 09 things taken 03 at a time?**
(A) 18 (B) 27 (C) 48 (D) 84
4. **The chemical formula for alum is:**
(A) $KAl(SO_4)_2 \cdot 12\ H_2O$ (B) $KSi(SO_4)_2 \cdot 12\ H_2O$ (C) $KAl(SO_4)_2 \cdot 8\ H_2O$ (D) None of these
5. **If the radius of a circle is increased three times then its area is increased:**
(A) Three times (B) Six times (C) Nine times (D) None of these
6. **One degree of longitude on the equator is equal to a distance of:**
(A) 49 miles (B) 69 miles (C) 39 miles (D) 60 miles
7. **The protein molecule is made of:**
(A) Alkaloids (B) Nucleosides (C) Short range chain of amino acids (D) Long range chain of amino acids
8. **The minimum amount of vitamin stored in the human body is of:**
(A) Vitamin D (B) Vitamin C (C) Vitamin E (D) Vitamin A
9. **The isotopes of any element contain equal number of:**
(A) Protons (B) Neutrons (C) Both electrons and protons (D) None of these
10. **The pH of soil is raised using:**
(A) Lime stone (B) Gypsum (C) Urea (D) None of these
11. **Which of the following is used for measuring distance?**
(A) Coulomb (B) light year (C) Farad (D) Curie
12. **Which of the following contains a greater number of carbon atoms in one mole of each compound?**
(A) Chloroform (B) Methanol (C) Water (D) Ethanol
13. **A pencil dipped in water appears bent due to:**
(A) Reflection (B) Diffraction (C) Refraction (D) None of these
14. **Fishes die outside the water due to:**
(A) Carbon mono oxide (B) Oxygen (C) Sun light (D) Non-absorption of oxygen
15. **In dementia a person:**
(A) Loses his weight (B) Loses thinking and writing
(C) Loses thinking, remembering, and reasoning (D) All of these
16. **Earthquake is measured by the instrument:**
(A) Wave guide (B) Barometer (C) Seismograph (D) Hydrometer
17. **A cyclone is formed:**
(A) When the warm air rises upward over the ocean (B) When moist air rises upward over the ocean
(C) When moist air pressed downward over the ocean (D) When warm, moist air rises upward over the ocean
18. **Why red light is used in traffic signal for danger?**
(A) Due to short wavelength (B) Due to high frequency
(C) It has long wavelength and high frequency (D) It has long wavelength and short frequency
19. **The heavy water is:**
(A) Denoted by D_2O and contains simple hydrogen (B) Denoted by H_2O and contains deuterium
(C) Denoted by D_2O and contains deuterium (D) Denoted by H_2O and contains simple hydrogen
20. **The ionosphere is located within the thermosphere and extends:**
(A) From 60-300 km above the Earth's surface (B) From 50-200 km above the Earth's surface
(C) From 50-300 km above the Earth's surface (D) None of the above

PART – II

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.
(iii) All the parts (if any) of each Question must be attempted at one place instead of at different places.
(iv) Write Q. No. in the Answer Book in accordance with Q. No. in the Q.Paper.
(v) No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.
(vi) Extra attempt of any question or any part of the question will not be considered.
(vii) **Use of Calculator is not allowed.**

(SECTION – A)

Q. 2. (a) What is the Tuberculosis and Hepatitis? Explain briefly. (5)
(b) Explain the mechanism of Fiber Optic Cable for signal. Explain its construction. (5)
(c) Explain the difference between Middle Latitude Cyclones and Tornadoes. (5)
(d) What is difference between the Ionic and Covalent bonding? Give examples. (5) **(20)**

Q. 3. (a) What is difference between Plastics and Elastics? Explain briefly. (5)
(b) What is role of Remote sensing and GIS in environmental Science? Discuss briefly. (5)
(c) What are Kepler laws related to the motion of planets? (5)
(d) What is difference between preservatives and antioxidants? Discuss briefly with examples. (5) **(20)**

Q. 4. (a) What is role of Carbohydrates and Vitamins in the body? Discuss briefly. (5)
(b) Discuss the functioning of Liver and Pancreas. (5)
(c) What are the standards of drinking water? How Heavy Metals in the water affect the living organisms? (5)
(d) What is radioactivity? Discuss the laws of radioactivity. Name two radioactive elements. (5) **(20)**

Q. 5. (a) What are the Plant nutrition elements? Enumerate them. (5)
(b) What is difference between software and hardware? Give five examples of each. (5)
(c) What are the types of earthquake waves? Discuss them. (5)
(d) What are longitudinal waves, electromagnetic and Gamma radiations? Discuss them. (5) **(20)**

(SECTION – B)

Q. 6. (a) If the sum of four numbers is 105. When 03 is added to a number, twice of another number, five times of third number and fourth number become equal to each other. What are these numbers in ascending order? (5)

(b) Find out the correct word from the given jumbled spellings. (5)
(i) UCTREUTRS **(ii)** LOVONAC **(iii)** CIHPROSTATAC
(iv) YNTIAUMH **(v)** NNTHORER

(c) Find the missing numbers in the series below (5)
(i) 121, 11, 81, 9, ?, 7 **(ii)** 100, 50, 25, ?, 6.25 **(iii)** 4, 9, 64, 125, 1296, ?
(iv) 2, 5, 12, 24, 48, ? **(v)** 44, 22, 66, 33, 132, ?

(d) If the sum of three digit number is 15 and sum of 10^{th} and unit digit is 12. The difference of unit digit from 10^{th} digit is equal to 02. What is the three digit number? (5) **(20)**

Q. 7 (a) **A** man travels over the path of a right-angle triangle having base and hypotenuse 4 and 5 kilometers, respectively. After a complete round he continues in the same direction for 6 km and then turns at 90 degree and continues for another 8 km. How long he has travelled and how far he is from his starting point? (5)

(b) Hassan, Ali, Akbar, Nasir and Shahbaz are classmates having different pocket money. Hassan's pocket money is one third as much as of Ali and Ali has five times as much as Akbar. Akbar has thrice as much as Nasir and Shahbaz gets equal to Nasir and that of Ali. If they get Rs. 8000 then find the pocket money of each. (5)

(c) What will be the surface area and volume of a sphere if it has a radius of 7 m? (5)

(d) Distribute Rs. 4320 among Zain, Aslam and Ashraf in such a way that if zain gets 2 parts then Aslam gets three parts, whereas Ashraf gets seven parts. (5) **(20)**

Q. 8. (a) **A** man purchases a car in an amount of Rs. 2400,000 in which he pays one-fourth extra as profit. Find the original amount of car and the amount of profit. (5)

(b) Twelve men can complete a job in twenty-four days. After four days four person quit. In how many days this job will be completed by the remaining persons. (5)

(c) The shadow of a 10 m tall tree is falling on a high rise building and its height is 100 m. If the tree is 20 m away from the wall, at what distance from the wall is the light source? (5)

(d) There are three cars and start moving in such a way that car A and B are moving opposite with speed 60 and 100 km/h. Car C is moving perpendicularly to both with speed 80 km/h. What is distance after 15 minutes between (i) A and B (ii) A and C (iii) B and C? (5) **(20)**

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YOUR EXAM COACH