



FEDERAL PUBLIC SERVICE COMMISSION  
SPECIAL COMPETITIVE EXAMINATION  
FOR APPOINTMENT TO POSTS IN BS-17  
UNDER THE FEDERAL GOVERNMENT

**GENERAL KNOWLEDGE-I (GENERAL SCIENCE & ABILITY)**

TIME ALLOWED: THREE HOURS

PART-I (MCQs) : MAXIMUM 30 MINUTES

(PART-I MCQs) MAXIMUM MARKS: 20

(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 along with the Question Paper.

(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. Apparently, the Solar System is moving around the galaxy with a speed of:  
(A) 50 km/s (B) 200 km/s (C) 500 km/s (D) Not moving at all
2. The image formation in the James Webb Space Telescope is due to:  
(A) Gamma-Rays (B) X-Rays (C) Visible light (D) Infra-Red Rays
3. In general, the Cancer in a human body is caused by changes to:  
(A) Virus (B) RNA (C) DNA (D) All of these
4. In a year, light travels a distance of:  
(A)  $9.4 \times 10^9$  km (B)  $9.4 \times 10^{12}$  km (C)  $9.4 \times 10^{15}$  km (D) None of these
5. The location below the Earth's surface where the Earthquake starts is called:  
(A) Epicenter (B) Hypocenter (C) Tectonic center (D) All of these
6. During the combustion of gasoline in a vehicle engine, the energy used is:  
(A) Chemical (B) Mechanical (C) Electrical (D) All of these
7. A Bar is System International unit to measure:  
(A) Temperature (B) Energy (C) Pressure (D) Force
8. One may define Renewable Energy as:  
(A) Energy derived from non-traditional sources  
(B) Energy derived from sources that do not use up natural resources or harm the environment  
(C) Energy fueled into ways that do not use up natural resources or harm the environment  
(D) All of these
9. The sky looks blue due to:  
(A) The scattering of sunlight by the Atmosphere. (B) The presence of water vapors in the air.  
(C) Absorption of blue light by the atmosphere (D) Presence of CO<sub>2</sub> in the atmosphere.
10. Soil pollution is caused by:  
(A) Aerosol (B) Ozone (C) Acid rain (D) All of these
11. The correct full form of "AI" is:  
(A) Artificially Intelligent (B) Artificial Intelligence  
(C) Artificially Intelligence (D) Advanced Intelligence
12. A 'Cyclone' is generated due to:  
(A) High Temperature (B) High Humidity (C) Low Pressure (D) All of these
13. The Radioactive isotopes are formed by neutrons bombardment on the Nucleus, these incident neutrons must have \_\_\_\_\_ to penetrate in the nucleus.  
(A) Very high velocity (B) Very low velocity (C) Intermediate velocity (D) All of these
14. An 'Enzyme' is a chemical substance that is found in living creatures; It is a:  
(A) Protein (B) Bacteria (C) Virus (D) All of these
15. An Antibiotic is a drug used to treat infections caused by;  
(A) Protein (B) Bacteria (C) Virus (D) All of these
16. In the covalent bonding, electron of two atoms:  
(A) Share with each other (B) Transfer from one atom to another  
(C) Attract the ions and delocalized electrons (D) None of these
17. The day and night are formed due to 'Earth' rotation on its own axis from:  
(A) North to South (B) South to North (C) East to West (D) West to East
18. The chemical formula for Methane gas is:  
(A) CH<sub>3</sub> (B) CH<sub>6</sub> (C) CH<sub>4</sub> (D) CH<sub>2</sub>
19. The Artificial Intelligence term was invented by:  
(A) Geoffrey Hinton (B) Albert Einstein (C) Alan M. Turing (D) John McCarthy
20. Disease-causing microorganisms are referred to as:  
(A) Pathogens (B) Coliform bacteria (C) Viruses (D) All of these



## PART – II

TIME ALLOWED: THREE HOURS	PART-I (MCQS)	MAXIMUM MARKS = 20
PART-I(MCQS): MAXIMUM 30 MINUTES	PART-II	MAXIMUM MARKS = 80
<b>NOTE: (i)</b> Part-II is to be attempted on the separate Answer Book.		
<b>(ii)</b> Attempt ONLY FOUR questions from PART-II by selecting TWO questions from EACH SECTION. ALL questions carry EQUAL marks		
<b>(iii)</b> All the parts (if any) of each Question must be attempted at one place instead of at different places.		
<b>(iv)</b> Write Q. No. in the Answer Book in accordance with Q. No. in the Q Paper		
<b>(v)</b> No Page/Space be left blank between the answers. All the blank pages of Answer Book must be crossed.		
<b>(vi)</b> Extra attempt of any question or any part of the question will not be considered.		
<b>(vii)</b> Use of Calculator is not allowed.		

### (SECTION – A)

- Q. 2.** (a) The age of the Universe is estimated to be 13.8 billion years. How was it estimated? (5)  
(b) Explain the phenomenon of Solar Eclipse. (5)  
(c) Describe James Webb Space Telescope, its principle of operation, construction and importance. (5)  
(d) Explain the Global Positioning System and its applications. (5) (20)
- Q. 3.** (a) What is a 'Weather Cycle'? Describe its causes and parts. (5)  
(b) What is 'Air Pollution'? Discuss its causes and measurement methods. Name the countries with the highest and lowest percentage of it. (5)  
(c) Write a comprehensive note on 'Pole Reversal' of Earth. (5)  
(d) Describe different Ocean Currents, their causes and effects on Climate. (5) (20)
- Q. 4.** (a) Write a note on data storage in a 'USB'. How it is different from the Hard disk? (5)  
(b) Describe how a 'Solar Cell' converts light into electricity. Describe its construction, operation and applications. (5)  
(c) Write a comprehensive note on 'Food cycle in our body'. (5)  
(d) What is 'Artificial Intelligence'? How it is helpful for humanity? (5) (20)
- Q. 5.** (a) Explain the concept of diabetes, its causes and classifications in the human body. (5)  
(b) Describe different sources of 'Renewable Energy'. How is it helpful for the environment? (5)  
(c) Define 'Enzymes'. Describe its types and functions within organisms. (5)  
(d) Describe the 'Cell Structure'. Elaborate 7 main functions of a cell in human beings. (5) (20)

### (SECTION – B)

- Q. 6.** (a) Find the area of a rectangular field whose length is 20 m and the length of its diagonal is 25m. (5)  
(b) A Crow travels 5 km due South, 3 km due West, 4 km due North and 2 km toward South-East. How far is crow from its starting position? (5)  
(c) Three persons, Zain, Ali and Umar started a business with Rs. 150,000, Rs. 190,000 and Rs. 120,000 respectively. Zain manages the business and receives allowance of Rs. 160,000 for this management. After 5 months Ali withdraws Rs. 90,000 and business is closed after 9 months. What did each receive in the profit of Rs. 580,000. (5)  
(d) Mst. Razia Begum died leaving behind her property of Rs. 802,500 which was to be distributed among her husband, her mother and two daughters. The husband got  $\frac{1}{4}$ , mother got  $\frac{1}{6}$  and remaining for 2 daughters. Rs. 7500 was spent on her burial. Find the share of each one. (5) (20)



## GENERAL KNOWLEDGE-I (GENERAL SCIENCE & ABILITY)

- Q. 7 (a)** In a certain country, 7% of the total workforce is employed in tourism. 24.4 million overseas visitors came to this country in 2014. 2014 was a record year for inbound tourism. This level of visitors was 3% higher than in 2013. It eclipsed the previous record of 24 million visitors recorded in 2008. In 2014 the average overseas visitor spent US\$ 110 but average daily spend per visitor in 2013 was US\$ 60 while in 2014, it was US\$ 76.20. (5)
- What percentage increase in daily average amount spent occurred between 2013 and 2014?
- (b)** How many visitors came to this country in 2013? (5)
- (c)** What was the approximate percentage increase on the previous record number of visitors? (5)
- (d)** If there are 30 m people employed in this country's workforce, how many work in the tourism sector? (5) (20)
- Q. 8. (a)** The sum of two numbers is 48. If the smaller number is one-fifth of the larger number, find the two numbers. (5)
- (b)** Find out the correct word from the jumbled spellings given below. (5)  
IUPNRT, AERPSTEL, LLARJVTTOUE, DCAAQOV, ANAISSSOITANS
- (c)** A sphere of diameter 26 cm is half filled with honey. The honey is poured into a cylindrical beaker of diameter 16 cm. Find the depth of honey in the beaker. (5)
- (d)** The breadth, length, and height of a room is 14 feet, 20 feet and 10 feet respectively. There is also a door of room having height 8 feet and with 5 feet. Two windows of 4 feet by 5 feet are also there. The cost of paint and labour inside room is Rs. 100 per square foot. How much will it cost to paint the inner walls and roof of the room? (5) (20)

\*\*\*\*\*