



FEDERAL PUBLIC SERVICE COMMISSION

**COMPETITIVE EXAMINATION FOR
RECRUITMENT TO POSTS IN BPS-17 UNDER
THE FEDERAL GOVERNMENT, 2005**

**GENERAL KNOWLEDGE PAPER-I
EVERY DAY SCIENCE**

<u>Roll Number</u>

TIME ALLOWED: 100 MINUTES.....Maximum Marks: 50

NOTE:

- (i) Attempt **ONLY FIVE** questions. All questions carry **EQUAL** marks.
- (ii) Extra attempt of any question or any part of the attempted question will not be considered.

Q1. Write short notes on any TWO of the following: (5 each)

- (a) Communication Satellite
- (b) Geo-thermal Energy
- (c) Ultrasonics *

Q2. Write short notes on the life and work of the following: (5 each)

- (a) Al-Biruni
- (b) Ibn Al - Haitham

Q3. Name: (1 each)

- (a) The alloy which consists of copper and tin.
- (b) The device used to measure radioactivity.
- (c) The organ in (he human body which is responsible for the digestion of protein only
- (d) The instrument used to measure very high temperature.
- (e) The scientist who designed the first internal combustion engine used to burn low grade fuel.
- (f)The scientist who asserted the earth to be a huge magnet.
- (g) The metal known as quick silver.
- (h) The device which converts the chemical energy into electrical energy.
- (i) The first person to orbit the earth in space.
- (j) The scientist who discovered water.

Q4-Write briefly about any FIVE of the following: (2each)

- (a) Shock Waves
- (b) Sound Barrier
- (c) Solar Cell
- (d) Super Fluid
- (e) Tsunami
- (f) Photovoltaic Cell
- (g) Hygrometer

Q5. Which physical quantities are measured by the following units? (1 each)

- (a) Coulomb
- (b) Weber
- (c) Tesla
- (d) Siemen
- (e) Rutherford
- (f) Faraday
- (g) Angstrom
- (h) Parsec
- (i) Degree
- (j) Steradian

Q6. How do our domestic and industrial activities pollute water? Explain with reference to two important industries of Pakistan. (5,5)

Q7- Which of the following statements are True and which are False: (1 each)

- (a) To stay in the sunlight while circling the globe at the equator, one has to move with a speed of 1670 km/hour.
- (b) Infrared waves have more wavelengths than the red colour.
- (c) liver produces bile which is involved in the breakdown of fats.
- (d) A secondary cell can be charged again.
- (e) Nucleic acids are responsible basically for protein synthesis in the human body,
- (f) The quality of gasoline is checked by its octane number.
- (g) image in a plane mirror is not laterally inverted.
- (h) Horse power is the unit of mechanical energy.
- (i) Sound travels faster in vacuum than in water.
- (j) Nitrogen is the most occurring element in the human body.

Q8. Differentiate between the following pairs. (2 each)

- (a) Radiotherapy & Chemotherapy
 - (b) Penumbra & Umbra
 - (c) Springtides & Neaptides
 - (d) Vertebrates &. Invertebrates
 - (e) Fluorescent light & Neon signs
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Q9. Fill in the blanks: (1 each) a) The variation in the blood flow can be heard with an instrument called ____

b) There is a place in the retina where the light sensitive cells are interrupted by the presence of the optic nerve head. It is known as ____

(c) The study of human population is called ____.

(d) Human beings belong to species called ____.

(e) defect of eye due to which nearby located objects are not clearly visible is called ____.

(f) About ____ of the human body consists of water.

(g) All of the oxygen that you breathe has been produced by the splitting of water during ____.

(h) The important ore of Chromium is ____.

(i) ____ acid was discovered by Jabbar bin Hayyan.

(j) The measurement of rainfall is made by an instrument known as ____.

Q10. What are the main reasons of water - logging in Pakistan? How does a tube-well reclaim a water logged soil? (5,5)

Q11 . Give scientific reason of the following: (2 each)

(1) Pole star is always seen in the north.

(2) We never see birds urinating.

(3) Pasteurized milk has more nourishment than the ordinary boiled milk.

(4) Bees die when they sting human beings.

(5) Cloudy nights are usually warmer than the clear ones.

Q12. What are Nuclear reactors? How the Electrical energy is produced by Nuclear Power Plants? Name the devices which convert

(1) Mechanical energy into electrical energy

(2) Heat energy into mechanical energy

(3) Electrical energy into mechanical energy

(4) Electrical energy into sound energy

(5) Sound energy into electrical energy

Q13. What do the following scientific abbreviations stand for: (1 each)

(a) I-1DL

(b) McV

(c) UHF

(d) LED

(e) LCD

(f) BASIC

(g) MASER

(h) ETT

(i) HST

(j) DBS

Q14-Compare the columns A and B and write the correct answer from the Column to the Column A (serial wise) in Column C,

Column A

1. Gunpowder
2. Marble
3. Ozone
4. Argon
5. Quartz
6. Mirage
7. Gold
8. Modulation
9. Length
10. Solar Energy

Column B

1. Sulphur dioxide
2. Fermi
3. Aqua regia
4. Beta - Particle
5. Frequency
6. Calcium Carbonate
7. Dobson Units
8. Silicon dioxide
9. Total internal reflection
10. Blue purple light

Column C

- 1.
- 2.
- 3.
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Q15. Choose the best choice in the following statements.

(1) Select the correct association :

(a) Oxidation-Loss of an electron (b) Oxidation - gain of an electron (c) Reduction - gain of a neutron (d) Reduction - loss of a neutron

(2) Radioactive isotope of Uranium used in Nuclear Bomb is:

- (a) ${}^{92}\text{U} 235$ (b) ${}^{92}\text{U} 234$
(c) ${}^{92}\text{U} 233$
(d) ${}^{92}\text{U} 238$

(3) Human population growth is greatest in developing countries because:

- (a) the birth rate is high in developing countries (b) the death rate is high in developing countries
(c) much of the population has already reached the child bearing age
(d) most of the world's population lives in industrialized countries

(4) Which woody raw material is used for the manufacture of paper pulp?

- (a) Cotton (b) Poplar (c) Bagasse (d) Rice straw

(5) Rectified spirit contains alcohol about:

- (a) 80% (b) 95% (c) 70% (d) 85%

(6) Which of the following elements is not present abundantly in earth's crust:

- (a) Silicon (b) Radium (c) Aluminum (d) Carbon

(7) The famous book; Al - Qanoun was written by the Muslim scientist:

(a.) Jabar bin Hayyan (b) Zakariya Al - Razi (c) Abu Ali Sina (d) Abdul Qasim Majreeti

(8) Basic metals can be converted into gold by:

(a) heating (b) beating (c) artificial nuclear radioactivity(d) chemical reaction

(9) A light year is a unit of:

(a) time (b) energy (c) length (d) mass

(10) One of the main function of the earth's ozone layer is to:

(a) prevent global warming (b) filter out ultraviolet rays (c) absorb pollution (d) all of the above

