FEDERAL PUBLIC SERVICE COMMISSION
COMPETITIVE EXAMINATION-2025 FOR RECRUITMENT TO POSTS IN BS-17 UNDER THE FEDERAL GOVERNMENT

GENERAL KNOWLEDGE-I (GENERAL SCIENCE & ABILITY)

Roll Number

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. **'Blue dwarfs' and 'Red giants' respectively refer to:**
   (A) Moons of Jupiter (B) Young star and Old star (C) Old star and Young star (D) None of these
2. **Most major Tsunamis are produced by earthquakes with hypocenters less than:**
   (A) 30 km (B) 40 km (C) 50 km (D) None of these
3. **Which of the following source of energy is caused by uneven heating of earth's surface?**
   (A) Wind (B) Solar (C) Biomass (D) None of these
4. **Global winds towards western direction are known as:**
   (A) Trade winds (B) Western winds (C) Reynolds wind (D) None of these
5. **Perinatal transmission is said to occur when a pathogen is transmitted from:**
   (A) Non-human to human (B) Infected to uninfected (C) Mother to infant (D) None of these
6. **Which of the plant group needs both land and water to complete their life cycle?**
   (A) Bryophyta (B) Tracheophyta (C) Thallophyta (D) None of these
7. **Maximum amount of carbohydrates are obtained from:**
   (A) Nuts (B) Plant oil (C) Whole grain food (D) None of these
8. **Which of the following class has the largest number of animals?**
   (A) Fishes (B) Insects (C) Mammals (D) None of these
9. **The process of preserving meat by stewing in a covered earthenware jug is called:**
   (A) Burial (B) Jugging (C) Curing (D) None of these
10. **All operating systems get their total memory initialized from:**
    (A) BIOS (B) RAM (C) ROM (D) CPU
11. **The amount of data transmitted for a given amount of time is called:**
    (A) Noise (B) Bandwidth (C) Frequency (D) None of these
12. **Which of the following products can be prepared using raw guava?**
    (A) Jam (B) Jelly (C) Both (A) and (B) (D) None of these
13. **Which of the following is used as a stabilizer in ice cream?**
    (A) Sugar (B) Milk (C) Gelatin (D) None of these
14. **In the structure of fiber, the light is guided through the core due to total internal:**
    (A) Reflection (B) Refraction (C) Diffraction (D) None of these
15. **Who is known as the inventor of Artificial Intelligence?**
    (A) Charles Babbage (B) John McCarthy (C) Alan Turing (D) None of these
16. **Which of the following is the common language for Artificial Intelligence?**
    (A) Java (B) Python (C) Lisp (D) None of these
17. **Cement factory labourer are prone to:**
    (A) Leukemia (B) Cytosilicosis (C) Bone marrow (D) None of these
18. **The fastest enzyme is:**
    (A) Pepsin (B) DNA polymerase (C) Carbonic anhydrase (D) None of these
19. **Process of adding vitamins to milk is known as:**
    (A) Flavoring (B) Fortification (C) Fermentation (D) None of these
20. **The waves which are used for line of sight (LOS) communication are called:**
    (A) Space waves (B) Cable waves (C) Antenna waves (D) None of these

****

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 effects are produced due to Rotation & Revolution of Earth? Explain briefly. (5)
(b) Describe Electromagnetic Radiations. Give its types and explain their applications. (5)
(c) What are Hurricanes? How they are formed and what level of damage they can produce? (5)
(d) Explain the advantages and disadvantages of nitrogen containing fertilizers and insecticides. (5) **(20)**

Q. 3. **(a)** Explain how temperature and light intensity affect the rate of photosynthesis in plants. (5)
(b) Describe the structure and functions of capillaries in the human blood circulatory system. (5)
(c) What is hepatitis? Give its types and briefly explain its common symptoms along with preventions. (5)
(d) Differentiate between biomass and biogas. Briefly explain various methods for obtaining energy from biomass. (5) **(20)**

Q. 4. **(a)** What is deforestation? State the disadvantages caused to the environment due to this. (5)
(b) Explain how water pollution is produced? Describe the part played by bacteria after a river has been polluted by sewage. (5)
(c) State some examples of pollution caused by human activity and discuss the effects of each example. (5)
(d) What does air pollution means? State ten serious effects of air pollution on the environment and briefly explain how they can be reduced? (5) **(20)**

Q. 5. **(a)** Differentiate between food contaminants and food adulterants. (5)
(b) Enlist major food groups based on nutrients, their functions and sources. (5)
(c) What is Artificial Intelligence and how does it differ from traditional programming? Describe the main branches of Artificial Intelligence. (5)
(d) What are the advantages of optical fibers in communication system? Draw basic structure of optical fiber and explain propagation of light through it. (5) **(20)**

(SECTION – B)

Q. 6. **(a)** In an annual sale, Saima buys a Fridge and a Freezer. The sale offers 15% off everything and she pays a total of Rs. 57,120/-. If the price of a freezer, before the sale, is Rs. 40,000/. What was the price of the Fridge before the sale? (5)
(b) Mr. Rasheed pays a deposit of Rs. 60,000/- followed by 36 equal monthly payments. The total amount that he pays is 127% of the basic price of Rs. 3,360,000/-. Calculate Rasheed's monthly payment. (5)
(c) Divide Rs. 600/=among A, B and C so that Rs. 40 more than 2/5 of A's share, Rs. 20 more than 2/7 of B's share and Rs. 10 more than 9/17 of C's share may be equal. (5)
(d) Find out the correct words from the jumbled spellings given below. (5) **(20)**
(i) TEANAIRM (ii) VAGNACEXETRA (iii) VADIELTIONC
(iv) PKUNYBARTC (v) TAESROSNC

Q. 7 **(a)** Calculate the marked price of the sculpture if it is sold for Rs.79950/- after a discount of 18%. On another day, if 10% discount is given on the marked price of the same sculpture before it is sold at a further discount of 8%. Would the sale price still be Rs.79950/-? (5)

(b) Majid pays a total of Rs.51520/- for his car insurance. The total is made up of a basic charge plus 15% sales tax. Calculate the amount of sales tax that Majid pays. (5)

(c) A camp site in the shape of a rectangle has sides (3x+6) m and (x+1) m and the length of the diagonal is (4x+1) m. Find the area and the perimeter of the camp site. (5)

(d) Arrange the following fractions in the descending order. (5) **(20)**

(a) $\frac{7}{12}, \frac{4}{7}, \frac{9}{14}, \frac{25}{42}$ (b) $\frac{5}{8}, \frac{7}{12}, \frac{5}{9}, \frac{13}{24}$ (c) $\frac{6}{35}, \frac{5}{21}, \frac{2}{7}, \frac{4}{15}$

(d) $\frac{2}{5}, \frac{6}{11}, \frac{7}{15}, \frac{9}{20}, \frac{13}{25}$ (e) $\frac{1}{5}, \frac{2}{7}, \frac{3}{8}, \frac{4}{13}, \frac{5}{17}$

Q. 8. **(a)** A train in first five successive minutes from its start runs 68m, 127m, 208m, 312m and 535m and for next 5 minutes maintains an average speed of 33km/hr. Find the whole distance covered and the average speed in covering this total distance. (5)

(b) A solid cuboid with base 10cm by 6cm is available. The height of the cuboid is 'y' centimeter and the total surface area of the cuboid is given to be 376cm^2. Find the height of the cuboid. (5)

(c) In a six member family (A, B, C, D, E and F), there are two fathers, three brothers and a mother. If C is the sister of F, B is the brother of E's husband. D is the father of A and grandfather of F. Who is E's husband? (5)

(d) How many prime numbers are between each of the following pairs of numbers? (5) **(20)**

a) $\sqrt{3}$ *and* $\sqrt{120}$
b) $\sqrt[2]{10}$ *and* $\sqrt[2]{410}$
c) $\sqrt[3]{10}$ *and* $\sqrt[3]{999}$
d) $\sqrt[3]{28}$ *and* $\sqrt{120}$
e) $\sqrt[2]{8}$ *and* $\sqrt{400}$

****

CSS26
CSS GSA 2025

MCQ - Part-I

1. b
2. c
3. d
4. b
5. c
6. b
7. d
8. c
9. b
10. b
11. b
12. c
13. c
14. a
15. b
16. b
17. a
18. c
19. b
20. a

Part – II

Section – A

Q. NO. 4

(a)

Understanding deforestation

"Deforestation refers to the persistent cutting of trees across the forests due to rapid urbanization, timber mafias and infrastructures" (UNESCO)

Deforestation's disadvantages

Deforestation has several disadvantages which are given below:

(1)
Declines CO_2 sink and air pollution

Forests are the largest CO_2 sink. They absorb CO_2 through a process known as photosynthesis. when forests are cut then nothing can absorb CO_2 which pollutes the air.

(2)
Creation of unemployment

Forests provide jobs in tourist guide sector, perservation of habitat and in procession of forest food, vegetation and timbers. When deforestation takes place then millions of people become unemployed.

(3)
Deforestation harms rich forest ecosystem

Deforestation destorys wildlife

such as plants, insects, animals and birds.

(4)

Enhances global warming

Forests are the lungs of the earth. According to **World Wide Wild Fund (WWF)** deforestation causes decline in the production of oxygen and CO_2 continues freely without absorption. Thus, it directly causes global warming.

(6)

Understanding water pollution

"Water pollution means the contamination of water"

(UN-Water Council)

Water pollution is nothing but chemical and physical change in the quality of water — such change makes water unsafe for drinking. Thus, water pollution causes desiseases such as Derya and Typhad.

Production of water pollution

(1) Spill over of oil

Ships' leakage of oil or discharge of oil such as petrol and diesel results water pollution across rivers.

(2) Urban runoff and solid waste

Urban wastages such as garbages, bottles, human waste and biomass runoff through streams enter into water bodies and cause water pollution.

(3) Industrial wastage

Industrial wastage such as oil, heavy meatals and west materials' spill over into water results in physical and chemical change in water body.

(4) Pesticides' runoff

In agricultural sector, pesticides and fertilizers are used to improve the quality of soil. When floodings happen, they

runoff the pesticides into water body and cause water pollution.

Bacterial role after the pollution of water bodies

Bacterial virus contributes to the formation of water born diseases. It causes Dergea and Typhad.

4

(c)

Pollution

It is a chemical and physical change in any of the atmosphere hydrosphere or litosphere of the earth.

Examples of Pollution

(1)

Air pollution

Air pollution refers to change in the quality of air due to CO_2, CO, SO_2 and NO_2.

(2)

Water pollution

Physical and chemical change in

the qualify of water is called water pollution.

(3) Land pollution

Pollution caused by the excessive use of pesticides or fertirizers. Also, solid waste management harms the soil.

(4) Noise pollution

Loud speakers, industrial operations and transportations contribute to noise pollution.

Pollutions	Effects
Air pollution	Causes lungs problems, effects the plants' leave photosynthesis
Water Pollution	makes water unsafe for drinking, causes water born diseases and much more
Land pollution	Harms food production, water and poses threats to healths
Noise pollution	Distrubs mental peace, birds, animals and causes fear in babies

(a)

Understanding air pollution

Air pollution refers to unwanted change in the quality of air. Green house gases (GHGs) contribute to air pollution. Acording to IPCC, atmospheric pollution harms plants, animals and humans.

Serious effects of air pollution

(1)

Enhances global warming

Global warming is being caused by the emission of CO, CO_2, NO_2, Methane, and SO_2. These Green House Gases (GHGs) pollute the air and enhance the warming of global temperture.

(2)

Instills diseases in plants

The quality of air has both advantages and disadvantages for humans. Change in air quality directly effects plants' leaves and the

procession of colour in leaves (photosynthesis). Thus, air pollution harms the production of food and vegetation.

(3)

Harms humans

Air pollution harms humans. It poses serious risks to human health. As it causes lungs problems, eyes issues and viral infection due to dust.

(4)

Poses threads to animals

Acid rain pushes animals to migrate and bring change in the behaviours of animals. This is how the migratary process of animals due to change in the quality of air results in the loss of habitat.

(5)

Fosters climate change

Climate change fosters

heatwaves, weather change and floodings. Behind all the above variations is air pollution.

(6)

Increases deaths

Air pollution annually causes millions of deaths across the globe. According to **World Health Organization (WHO)**, since 2021-24 1 million people died due to air pollution.

(7)

Sudden change in weather patern

Air pollution causes sudden change in the weather patren. It enhances global warming and changes the cycle of air.

(8)

Poses threats to agriculture

Sudden change in the weather pattern results in seasonal changes for the plantation of vegetation

and fruits.

(9)

Harms infrastructure

Air pollution causes acid rain which harms the colour and resistance of buildings, wooden homes and tents.

(10)

Spread diseases

Air pollution spreads diseases such respaitory problems and viral infections.

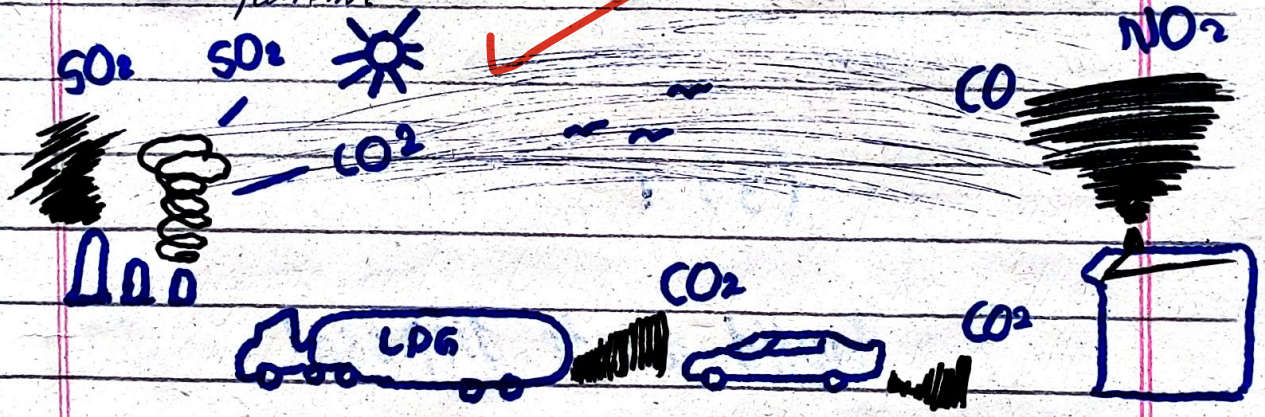


Figure 0.1 Air pollution

Reducing air pollution

attempt and upload a single qs for evaluation at a time.....

(1)

Shifting into renewable energy

Nations should shift into renewable energy resources such as wind, solar, hydro and thermal energy. They can reduces the air polluted gases such as CO_2, CO, NO_2, SO and SO_2.

(2)

Promote awareness

Countries should promote awareness about the threats of air pollution.

(3)

Solid waste disposal

Countries must properly disposal solid waste as it harms the quality of water, air and land.

Features	Food contaminants	Food adulterants
Definition	Food contaminants occurs unintentionally due to bacteria, pressure and rottness	Intentionally substances are added for increasing the quntity or quality
Purpose	No particular purpose	Harmful substances are added for economic gain or fraud.
Examples	Rotten fruits and vegetation	Water in milk and sand in sugar
Health risks	Cause long term health issues	Cause deryea and persistent vomiting, along with stomch issues
Laws	No proper law to regulate	Food authorities regulate

Figure 0.2 difference between food contaminants and food adulterants

(6)

Food groups	Functions	Sources
Charbohydrate	main source of energy	Honey, sugar, nuts and fruits (dates)
Fat	Enhances energy, reproduce muscles etc	Oil, fatty meats, and cheez
Vitamins	Growth, bones, skin, hair and eyesight	milk, egg, patatos, fruits and dry fruits
Minerals	Bone, hair, memory and much more	milk, fruits, cheez and eggs

Figure 0.3 table of food groups based on nutrients

(c)

Artificial Intelligences refers to the operations of computers and robots that work, decide and act like humans.

Difference between AI and traditional programming

AI functions upon beyond given instructions. Tradifional programming which fosters ifs features to perform limited tasks.

Main branches of AI

(1)

Robotics

Robotics is one of the branches of AI which instills human capabilities in machines.

(2)

Chatbot

Chatbot includes apps such as ChatGpT and Deepseek. They act on unilimited instructions.

(d.)

Understanding optical fibers

Optical fiber refers to strand glass similar to human hair. It carries digital information over long distances in the shape of signals.

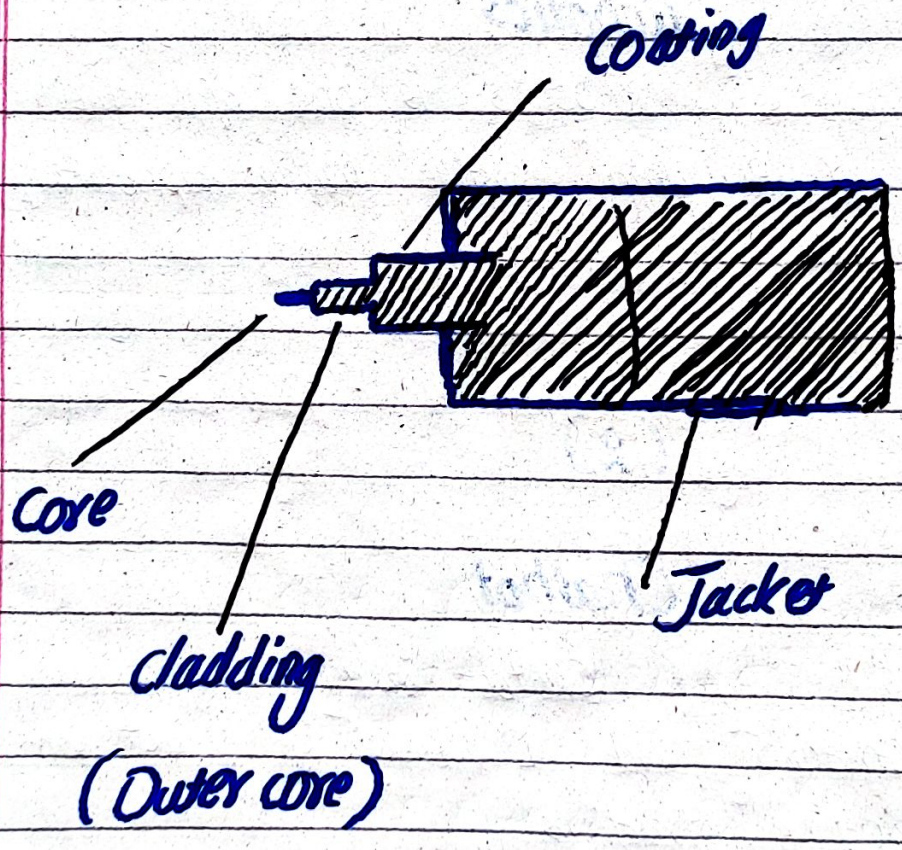


Figure 0.4 basic structure of optical fiber

Advantages of Optical fiber

(1)
Resilient to resistence

Optical fiber is resilient to outer resistance. It is unlike traditional wire which gets weaken due to chemical reactions.

(2)
Carries information over long distances

It carries information over long distances unlike traditional wire.

(3)
Faster to carry information

Optical fiber carries faster information than traditional information.

(4)
Long term existence

It continues for

for long time.

Propagation

Light is injected into core of the optical fiber. The light is confined fully in the core to carry information in the form of signals. The cladding core reflects the light back. This entire process is known as Propagation.

Section – B

(a)

Average

- First five successive minutes

$68 + 127 + 208 + 312 + 535$

195 — 395 — 403 — 715 — 1250

Sum of first successive minutes $= \frac{1250}{5}$ m

- Next five minutes $33 \times 5 = \frac{165}{5}$ Km

150

It 166 Km and 250 total average covered

(C)

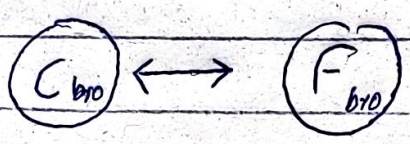
A blood relations

Two fathers

three brothers

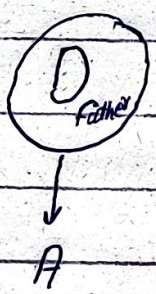
A mother

A B C D E F



Grandfather of F is D

B bro is the brother of E's husband



D is the father of (A and B)

A is a father of C and F

E's husband is A.