



**FEDERAL PUBLIC SERVICE COMMISSION  
COMPETITIVE EXAMINATION – 2017  
FOR RECRUITMENT TO POSTS IN BS-17  
UNDER THE FEDERAL GOVERNMENT**

Roll Number

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

<b>TIME ALLOWED: THREE HOURS</b>	<b>PART-I (MCQS)</b>	<b>MAXIMUM MARKS = 20</b>
<b>PART-I(MCQS): MAXIMUM 30 MINUTES</b>	<b>PART-II</b>	<b>MAXIMUM MARKS = 80</b>

- NOTE:** (i) Part-II is to be attempted on the separate Answer Book.  
(ii) Attempt **ONLY FOUR** questions from **PART-II**, 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) Candidate must 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 attempted question will not be considered.  
(vii) **Use of Calculator is not allowed.**

**PART-II  
SECTION-I**

- Q. No. 2.** (A) What are the factors responsible for environmental pollution? (5)  
(B) Briefly explain the main reasons of water-logging in Pakistan. (5)  
(C) What do you mean by Ozone depletion and how we can prevent its depletion? (5)  
(D) What is an Acid Rain and how it is produced. Briefly describe the dangers associated with it? (5)

Q.2

(A)

Definition:

Environmental pollution is the type of pollution that is accustomed by many other type of pollution. In environmental pollution, the factors that are effected are air, land, water and climate overall.

What are the factors causing environmental degradation?

### 1) Excessive organic waste

A huge amount of waste that is disposed in urban-populated areas causes ample medicinal issues.

example: Organic waste like human feces, animal wastes and human-used elements.

### 2) Industrial waste

Nearly 80% of the industries exhibit fumes and dispose off its waste unchecked. Acidumes and alkalines disposed off renders environmental degradation, causing a huge



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number of health issues.

example: typhoid is a result of consumption of polluted water.

### 3) Unchecked mining sites

In Pakistan, there are ample natural resources but the extraction process lack the professionalism. Thus, due to metal ores being disposed of in lakes causing environmental disruption as these stick on tissues of fish rendering a blow on aquatic life.

### 4) Excessive usage of Carbon-Induced vehicles

In Pakistan, usage of vehicles remains a top priority instead of walking. Fumes generated by vehicles driven on hydrocarbons is a largest threat to environment as it spreads carbon emission, increasing carbon foot and ultimately increased global warming.

### 5) Rampant usage of hydrocarbons

In Pakistan, the notion of green



energy is ilusive until now. Therefore, the usage of renewable energy resource must be fostered to cater the environmental pollution once and for all.

B)

### Definition

Water logging is a phenomena or a stage when the soil is utmost saturated that it doesnot absorb any water. It cause the water to remain stagnant.

What are main reasons behind water logging in Pakistan?

### 1) Ambiguous weather patterns

As Pakistan remains vulnerable to climate change and uncomprehensible rain patterns causes urban flooding.

Due to its preventive measure could not be taken timely which causes enormous infrastructure damage and economic losses.

example : floods of 2010 and 2022.

### 2) Leakages in canals



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Unchecked status of canals is a larger threat to water logging. As ample of canals are made through digging temporary and vulnerable scribes that leak water continuously. Therefore, Regud canals must be constructed to curb this enigma.

### 3) Over Irrigation

In a bid to attain more profits, more land is cultivated via tubewells. It causes soil more and more saturated, making it irredient to water absorption.

### 4) Ineptness of municipal authorities

Dormant status of local bodies has created this issue. If the drainage lines of urban setting are timely cleaned, this issue can be prevent. However, this inefficiency poses a larger threat to water logging in Pakistan.

### 5) Increased water table

Due to excessive usage of water in agriculture and the geographical



of Indus basin, the environment remains prone to increased water table.

## 9) Definition

Ozone is layer made up of  $O_3$  molecules. It is shield of UV radiation that emerges from sunlight. Ozone depletion is a continuous and gradual process of thinning ozone layer, rendering sunlight to enter atmosphere unfiltered.

### What are causes of ozone depletion?

A huge number of chlorofluoro carbons that are emitted by refrigerators. Moreover, hydrofluoro carbons also contribute on ozone depletion.

- CFCs and HFCs,

### How it can be prevented?

1) Introducing usage of green energy



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Introducing solar energy, hydro energy, Geo-thermal energy may reduce this menace.

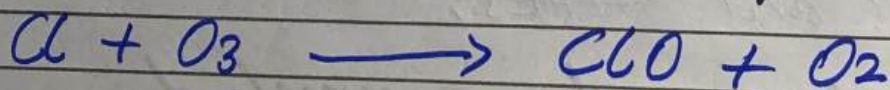
## 2) Imposing check and balance on emissions

District administration must impose regularisation policies on people. Moreover, strict penalties must be imposed on the violators.

## 3) Diplomatic engagements

There must be more regional and national agreements like Montreal protocol in 1987 and Kyoto protocol in 1997. These agreements largely thwarted the emissions of CFCs globally and a major improvement was seen in ozone layer.

## Illustration of ozone depletion





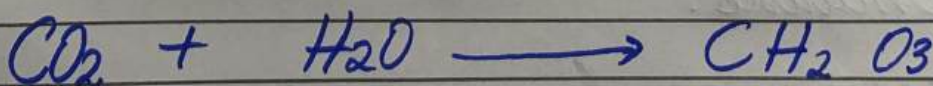
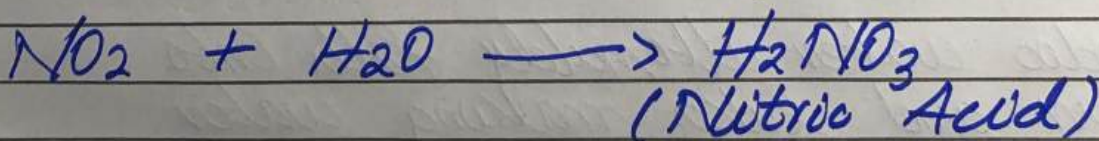
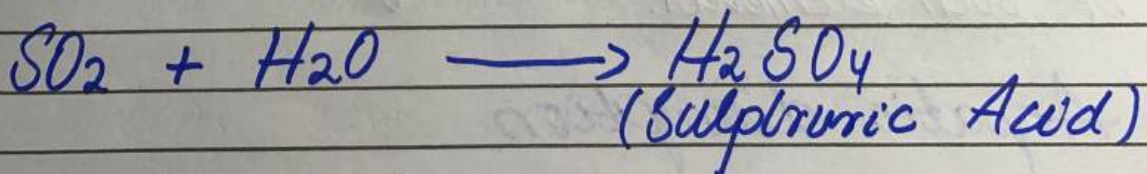
## ① Definition :

Acid rain is a type of rain that is considered to be disastrous for environment. It contains contaminants like  $\text{CO}_2$ ,  $\text{NO}_2$  and  $\text{SO}_2$ .

## How it is produced ?

When fumes containing excessive amount of chemicals, like Sulphur dioxide, Nitrogen oxides and carbon dioxide react with the water droplets, it turns water into acids.

## Equation depicting its chemical formation.





## What are destruction effects of Acid Rain?

### 1) Depleting Infrastructure

It causes increased destruction to layouts and paints of houses and buildings.

### 2) Deforestation

It poses a threat to ecology. As acidic water kills the presence of trees and plants from its core, rendering it hollow.

### 3) Atmospheric degradation.

Smog in atmosphere from  $SO_2$  and nitrogen oxides, rendering formation of such elements.

### 4) Aquatic disruption

Acidic water ultimately falls onto rivers and lakes making water bodies unlivable.

### Its measurement

The pH level of acid rain is less than 5.6.