

# **POLICY GUIDELINES FOR GENERAL SCIENCE PAPER**

## **Paper Pattern and Distribution of Marks General Science SSC-II**

The question paper is organized into following three sections, namely: "Section A, B & C": Questions posed may be text based or derived/unseen but in similar pretext and difficulty level as per the lessons taught in the course. Distribution of the questions with respect to cognitive domain within each section shall roughly be around 30 percent Knowledge (K), 50 percent Understanding (U) and 20 percent Application (A).

The Questions in these subjects should be designed in such a manner that no pet-definitions are asked or required from the candidates to be reproduced. Moreover the questions should be appropriately designed whilst keeping in consideration the time for thought-process (particularly in U and A Cognitive Domain questions) and the length of the subsequent text to be produced by the candidates.

### **SECTION — A**

This section consists of question number one with 15 compulsory structured part questions - Multiple Choice Questions (MCQs) of one mark each. These MCQs should preferably be designed in such a way that they cover the whole course taught. These MCQs should objectively test the understanding of the concepts of the candidates in these subjects.

### **SECTION — B**

This section consists of question number two (02) with preferably 18 part questions – Short Response Questions (SRQs) of three (03) marks each. The candidates are required to attempt (respond to) any Twelve (12) SRQs for a maximum total of 36 marks in this section.

### **SECTION — C**

This section consists of Four (04) Extended Response Question (ERQs) of eight marks each. Candidates are required to attempt (respond to) any Three (03) of these ERQs as per their choice and convenience. These questions may comprise of two or more part questions each if deemed necessary by paper setter in order to balance out the distribution various concepts and knowledge areas from different Cognitive Domains taught in course. None of these part questions shall be of less than 04 marks.

## **Annexure for Policy Guidelines for Question Paper**

### Definitions and Disclaimer

Policy guidelines for paper setting vide Notification No.6-8/FBISE/RES/CC/918 dated 27 August 2019 have been conveyed for general information. Definitions of some terminologies and disclaimers are given in this annexure.

#### **1. Definitions**

##### **I. Cognitive Domains**

Cognitive domain refers to development of mental skill and acquisition of knowledge.

In the questions papers developed by Federal Board of Intermediate & Secondary Education, Islamabad from hereon will be intended to test the following cognitive domains of the candidates:

- Knowledge: Approximately 30% Question in each section
- Understanding: Approximately 50% Question in each section
- Application: Approximately 20% Question in each section

##### **i. Knowledge (K)**

Knowledge refers to the ability of the candidates to recall the learned or memorized information or data.

##### **Examples**

- A child reciting the alphabets of English
- Memorization and reproducing the dates and other facts etc.  
e.g. Pakistan came into being on 27th Night of Ramadan-ul-Mubarak.

##### **Related Verbs (Command Words)**

Arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce, state etc.

##### **ii. Understanding (U)**

Understand (also called Comprehension) refers to ability of the candidates to comprehend (a set of) information and/or situation and provide his/her response to it accordingly.

##### **Examples**

- Performing analyses and illustrating the observations
- Comprehending the concepts of Social, Natural and Physical Sciences  
e.g. Discuss different types of noise and their impact on human health briefly.

##### **Related Verbs (Command Words)**

Classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate, rephrase, differentiate, compare etc.

##### **iii. Application (A)**

Application refers to the ability to use learned material in new and concrete situation to solve problems and/or to design a schedule or task.

##### **Examples**

- Performing analyses and illustrating the observations
- Comprehending the concepts of Social, Natural and Physical Sciences  
e.g. Illustrate the similes and metaphors given in the poem Daffodils.

##### **Related Verbs (Command Words)**

Apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write etc.

## II. Sections of Paper

There are three or four (03 or 04) sections in each question paper:

### i. Section-A

Contains Multiple Choice Questions (MCQs). All questions are compulsory without any external or internal choice. Usually comprises of 20% of total marks of the (theory if applicable) paper.

### ii. Section B

Contains Short Response Questions (SRQ). Candidates may have external choice up to 33%. In addition to that internal choice may also be offered based upon model, content and/or nature of the subject.

- This section may contain almost 50% of total marks in some subjects of the (theory if applicable) paper.

### iii. Section C

This section usually contains Extended Response Questions (ERQ). Candidates may have external choice in the questions. In addition to that internal choice may also be offered based upon model, content and/or nature of the subject. For ERQs it should contain around 30% of total marks in some subjects of the (theory if applicable) paper.

## III. Choice

Sometimes the candidates are required to attempt a certain number of questions from a given pool or group of questions, it is commonly known as choice in questions.

There are two types of choices

### i. External Choice

Whenever the candidates are required to solve (respond to) a certain number of questions from a given pool it is called external choice. This choice may be around 33% in a section.

- e.g.
1. Answer any six parts in about 30-40 words each.  
(Out of eight questions)
  2. Attempt any eight questions from the following.  
(Out of eleven questions)

### ii. Internal Choice

Whenever the candidates have to solve (respond to) a question mandatorily but they have an option within the question it is called internal choice.

- e.g.
1. Paraphrase any ONE of the following stanzas.
    - a. Stanza 1
    - b. Stanza 2
  2. Translate the following: (Some sentences for translation are given)

**OR**

Write a Dialogue between a beggar and a citizen

## 2. Disclaimers

- I. The cognitive levels written in sample model paper are for explanation purpose only. In the actual question papers administered during examination shall not contain description of these cognitive domains.
- II. Association of the cognitive domains is solely based on subject expert's judgment and may be subject to errors and/or omissions.
- III. In the class rooms and during teaching the candidates (students) need to be taught about the time management in accordance with allocation of marks to the questions.

Roll No: 

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Answer Sheet No: \_\_\_\_\_

Sig. of Candidate: \_\_\_\_\_

Sig. of Invigilator: \_\_\_\_\_

**Federal Board SSC-II Examination  
General Science Model Question Paper**

**SECTION – A**

Time allowed: 20 minutes

Marks: 15

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Note: Section-A is compulsory. All parts of this section are to be answered on the question paper itself. It should be completed in the first 20 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

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**Q.1 Encircle the correct option i.e. A / B / C / D. All parts carry equal marks.**

- i. Fats  $\xrightarrow[\text{Enzyme}]{\text{Lipases}}$  Fatty acids + \_\_\_\_\_
- A. Glucose                                                      B. Energy  
C. Glycerol                                                     D. Amino Acid
- ii. The average life of red blood cells is \_\_\_\_\_ days.
- A. 110                                                            B. 120  
C. 130                                                            D. 140
- iii. The number of chromosomes in Pea Plant is \_\_\_\_\_ pairs.
- A. 4                                                                B. 7  
C. 8                                                                D. 14
- iv. Vitamin B<sub>12</sub> is also called:
- A. Riboflavin                                                    B. Thiamin  
C. Ascorbic Acid                                             D. Cyanocobalamin
- v. How many calories produced by 100gm of Barley?
- A. 355                                                            B. 348  
C. 194                                                            D. 100
- vi. The anti conductor against the current in a circuit is:
- A. resistance                                                 B. voltage  
C. electric cell                                                D. charge
- vii. The conversion of iron into steel requires:
- A. carbon                                                        B. zinc  
C. copper                                                        D. nickel
- viii. Many artificial satellite collects information and send back to earth by:
- A. wires                                                         B. radiotransmitters  
C. waves                                                         D. optical fibres
- ix. Karachi Nuclear Power Plant (KANUPP) was established in:
- A. 1962                                                         B. 1972  
C. 1982                                                         D. 1992





Federal Board SSC-II Examination  
General Science Model Question Paper

Time allowed: 2.40 hours

Total Marks: 60

Note: Attempt any twelve parts from Section 'B' and any three questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet-B if required. Write your answers neatly and legibly.

**SECTION – B (Marks 36)**

Q.2 Attempt any **TWELVE** parts from the following. All parts carry equal marks. ( $12 \times 3 = 36$ )

- i. "Organic catalysts are essential for the processes of life" justify this statement.
- ii. Why hemophilia and colour blindness are called inherited diseases?
- iii. Differentiate Antibiotics and Vaccines.
- iv. Why Pituitary Gland is called a "Master Gland"?
- v. What are the Vitamins, enlist its all types.
- vi. If you are playing outside your home with your friend. Suddenly a dog comes and bites your friend. What should you do immediately as first aider?
- vii. What is balanced diet? Enlist major components of food.
- viii. Suggest three methods to reduce the air pollution.
- ix. Write down advantages of greenhouse effect.
- x. Differentiate between Alternative Current (AC) and Direct Current (DC).
- xi. Why ammeter is connected in series in a circuit to measured electric current? Illustrate your answer with circuit diagram.
- xii. What are the main types of capacitors?
- xiii. What are the uses of laser in daily life?
- xiv. What is "ELCB"? Write its importance in Electric Circuit.
- xv. Differentiate between stable and unstable atoms.
- xvi. Differentiate between X-Rays and Ultrasound-waves.
- xvii. Write down three main objectives of Pakistan's Nuclear Program.
- xviii. Draw a labeled sketch of Rocket.

**SECTION – C (Marks 24)**

Note: Attempt any **THREE** questions. Each question carries equal marks. ( $3 \times 8 = 24$ )

Q.3 "The cells of the body do not remain young and active throughout life". Explain this statement by considering the topic:  
"Aging and Decay of the body"

Q.4 a. Explain the working of transformer with the help of diagram.  
b. Write down steps of "fractional distillation of Petroleum".

Q.5 What is the composition of enzymes? Describe general characteristics of enzymes.

Q.6 Write notes on the following:

- a. Nervous System
- b. Space Shuttle

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