

## Grade 4: NGN LOGIC OLYMPIAD 2023 - Section B & C

Student Name: \_\_\_\_\_

Maximum Time: 90 minutes

Maximum Marks: 100

### EXAM INSTRUCTIONS

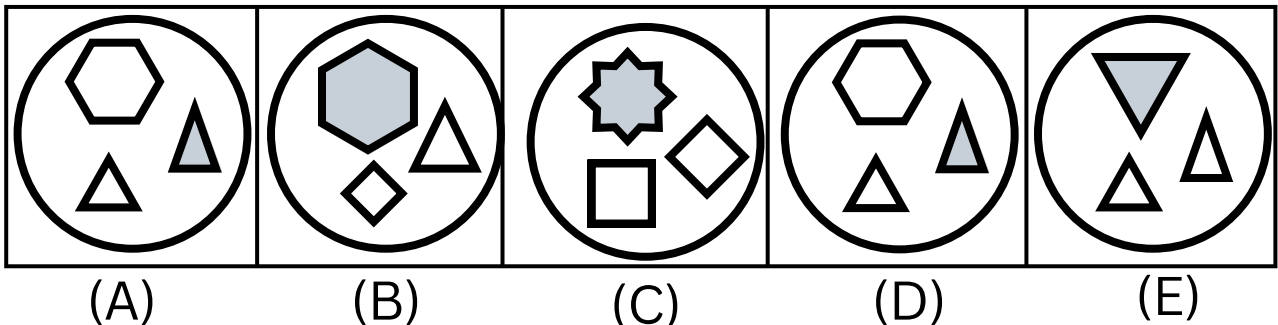
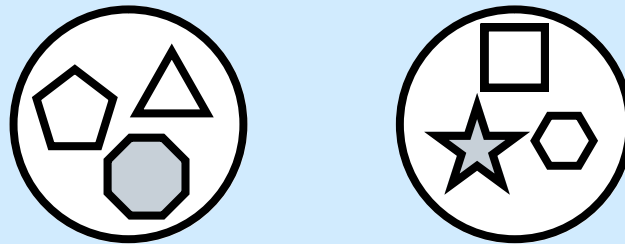
- There are **33** questions in this paper.
  - Section A (Basic Level):** 2 Marks, 15 Questions
  - Section B (Moderate Level):** 3 Marks, 10 Questions
  - Section C (Difficult Level):** 5 Marks, 8 Questions
- No points will be deducted for each incorrect answer. Do not skip any questions. Use your logical reasoning skills to guess the answer.
- Types of Questions: **Section A:** Pick one correct answer. **Section B:** Pick all correct answers. **Section C:** Fill in the blanks and pick all correct answers.
- The questions in Sections B and C are based on questions related to social impact and global citizenship. The questions in Section B will focus on solving social issues logically. Section C will discuss international global problems that need rational solutions.
- Pencils, erasers, rulers, and rough paper for calculations are allowed.
- To mark your answer, darken the circle in the Answer sheet; use a Blue/Black Ball Point Pen only.
- For some questions in Sections B and C, mark your answer by filling in the bubbles. For Eg: 346.

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<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input checked="" type="radio"/>	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9	Tens
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## SECTION B: 3 MARKS EACH

1. In **2021**, In Seoul, South Korea, Kim started an affordable childcare center for young married families. In one of the classes, Kim teaches the kids to recognize shapes. Here is the question.  
**Choose** a similar shape to those given below.



## SECTION B: 3 MARKS EACH

2. **2022:** Angelo lives in Manila, Philippines, and deals with an energy crisis. Some citizens lacked access to electricity or could not afford it. Angelo is writing an essay about this energy crisis in Philippines.

**Choose** the sentences that will **not** be part of his essay.

(A) *Due to climate change, natural disasters like tornadoes often hit the Philippines, destroying electricity lines.*

(B) *The direct impact of land degradation has been deterioration in food availability, soil fertility, protection of wood, and groundwater recharge.*

(C) *Due to the high demand for power during the human catastrophe, there were regular power outages and unplanned maintenance.*

(D) *The Philippines depended heavily on coal imports for power generation. Since the price of coal imports increased, the cost of electricity increased.*

(E) *Due to high-tech agricultural companies taking over their land, small-scale farmers lost their jobs.*

Credit: BORGEN PROJECT, [borgenproject.org](http://borgenproject.org)

## SECTION B: 3 MARKS EACH

3. **2022:** Amara is from Windhoek, Namibia, making posters to raise awareness about air pollution in Africa. Air pollution can cause different respiratory disorders in humans. Here are some statements she wrote about air pollution in Africa.

Credit: NGN Research

**Statement 1:** Children are more likely to suffer from respiratory ailments.

**Statement 2:** The presence of hazardous waste facilities causes air pollution in Africa.

**Statement 3:** Poverty makes it hard for disadvantaged people to afford health care.

**Choose** the options that are **not true** from the following.

(A) Statement 1 is the cause, and Statement 2 is its effect.

(B) Statement 2 is the cause, and Statement 1 is its effect.

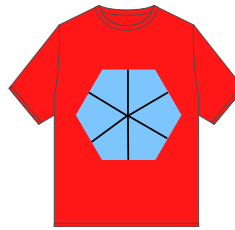
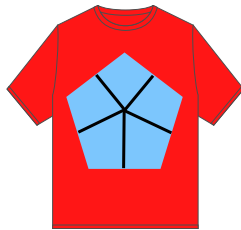
(C) Statement 3 is the cause, and Statement 1 is its effect.

(D) Statement 2 is the cause, and Statement 3 is its effect.

(E) All the statements are independent causes.

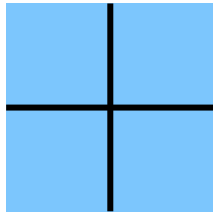
## SECTION B: 3 MARKS EACH

4. **2021:** Moreno lives in Merida, Venezuela. His country is facing poverty due to corruption. Poverty leads to hunger, a lack of good healthcare, and access to clothing and shelter. He designs shirts that follow a certain pattern to be distributed among the underprivileged.

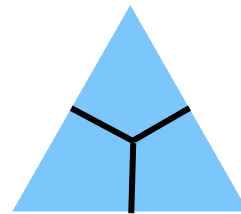


**Choose** a design that is similar to the one Moreno designed.

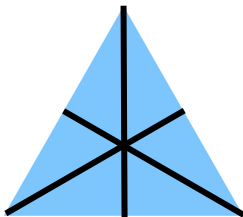
Credit: REUTERS, reuters.com



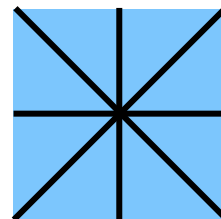
(A)



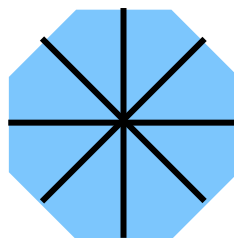
(B)



(C)



(D)



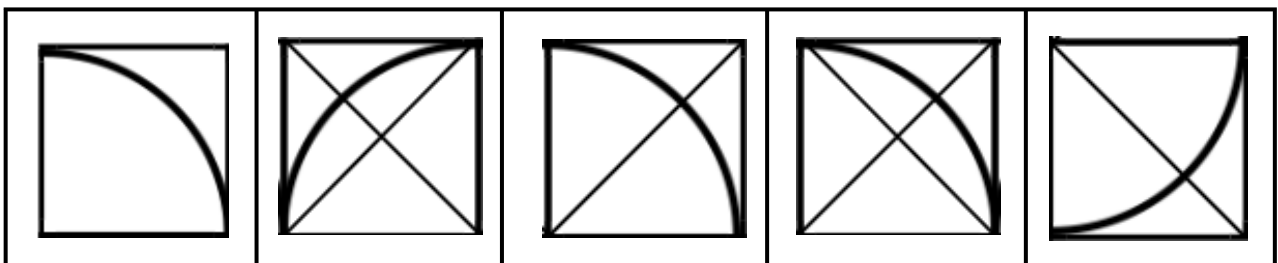
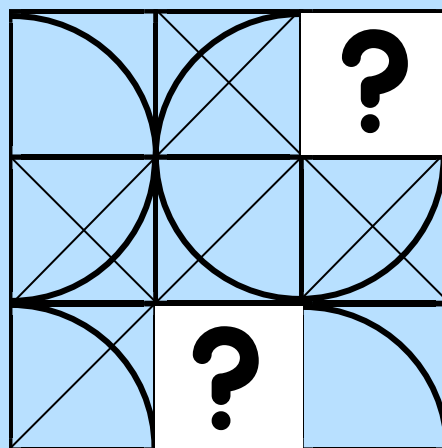
(E)

## SECTION B: 3 MARKS EACH

5. **2022:** Several companies in the fashion industry are known for their significant adverse environmental impact contributing to waste production. Environmental waste includes water and chemical wastes from textile production and high energy usage in production, transportation, and recycling. So, Jamies creates a design on recycled cloth, but some parts are missing.

**Choose all** the figures that will fill in the missing parts.

Credit: NGN Research



(A)

(B)

(C)

(D)

(E)

## SECTION B: 3 MARKS EACH

6. In **2022**, Pakistan experienced the devastating effects of an untimely flood that affected millions. Ajmal reads a news article about floods in Karachi, Pakistan. Unfortunately, the sentences are jumbled.

**Choose the correct order** of the sentences to form a coherent paragraph.

(1) Unprecedented floods have been reported in many parts of Pakistan due to climate change.

(2) Before, temperatures rose to 40 degrees Celsius due to extreme heat.

(3) As a result of these high temperatures, glaciers in the nearby mountains melted.

(4) Summers can be wet due to short intervals of rainfall, but Pakistan's residents haven't experienced continuous rainfall for two months.

Credit: NGN Research

<b>2, 3, 4, 1</b>	<b>4, 1, 2, 3</b>	<b>1, 4, 2, 3</b>	<b>1, 2, 4, 3</b>	<b>4, 2, 3, 1</b>
(A)	(B)	(C)	(D)	(E)

## SECTION B: 3 MARKS EACH

7-8. **2022:** As the world's population grows, some countries will likely become overpopulated and suffer from extreme poverty. Rawad, Beatrice, Cole, Dawn, Ellen, Farida, Ganga, Harsh, and Kyle are seated in a straight line to see a presentation to further learn about this issue. They all are facing the north direction. Here are some clues about their seating arrangement:

Credit: NGN Research

1. Farida is the immediate right to Rawad.
2. Cole is the immediate right of Dawn.
3. Harsh is seated adjacent to both Farida and Ganga.
4. Farida is sitting third to the left of Beatrice.

7. If Beatrice is not sitting at the end, **choose all** the persons seated at the end.

<b>Kyle</b>	<b>Rawad</b>	<b>Farida</b>	<b>Dawn</b>	<b>Cole</b>
(A)	(B)	(C)	(D)	(E)



## SECTION B: 3 MARKS EACH

1. Farida is the immediate right to Rawad.
2. Cole is the immediate right of Dawn.
3. Harsh is seated adjacent to both Farida and Ganga.
4. Farida is sitting third to the left of Beatrice.

8. If Beatrice is not sitting at the end, **choose all** the persons seated at the end.

<b>Ganga</b>	<b>Farida</b>	<b>Beatrice</b>	<b>Dawn</b>	<b>Cole</b>
(A)	(B)	(C)	(D)	(E)

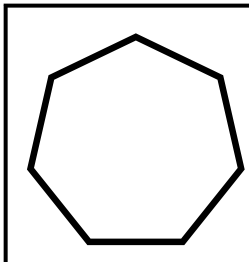
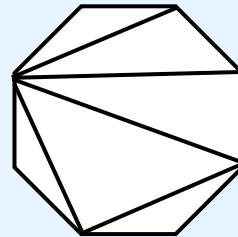
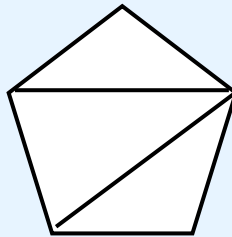
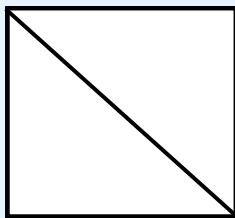


## SECTION B: 3 MARKS EACH

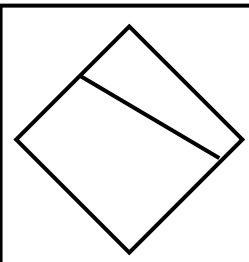
9. **2022:** In Hungary, many women with young children were not treated equally and fairly during the Covid-19 pandemic. Andrea opens a nursery to assist working mothers. In a box, she arranges similar shapes and gives them to mothers. **Choose all** the figures that are similar to the shapes in the box.

Credit: NGN Research

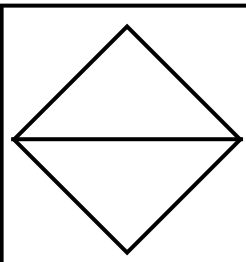
**BOX**



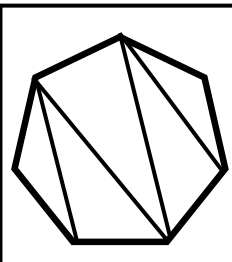
(A)



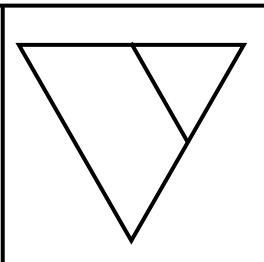
(B)



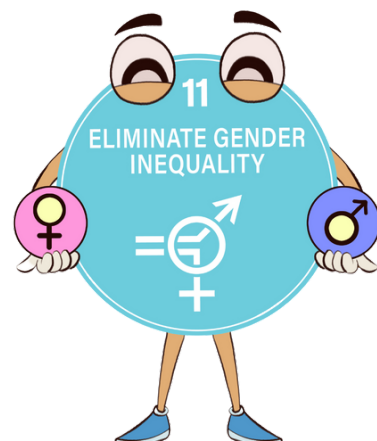
(C)



(D)



(E)



## SECTION B: 3 MARKS EACH

10. **2021:** Aileen is submitting a paper on the effects of land degradation in Panama. Living in Panama, she knows the harmful effects of land degradation, like the increased CO<sub>2</sub> in the air. Here are some statements from her paper about land degradation.

Credit: World Economic Forum, - weforum.org

**Statement 1:** The increase in population has resulted in a decrease in forest cover.

**Statement 2:** Land degradation affects groundwater recharge, soil fertility, and food availability.

**Statement 3:** Panama's indigenous population may also be affected by the expansion of land degradation.

**Choose** the correct option(s) from the following.

(A) Statement 2 is the cause, and statement 3 is the effect.

(B) Statement 2 is the cause, and statement 1 is the effect.

(C) Statement 1 is the cause, and statement 2 is the effect.

(D) Statement 1 is the cause, and statement 3 is the effect.

(E) All statements are the causes.

## SECTION C: 5 MARKS EACH

11-14. **2022:** Unemployment among youth was a major cause of concern globally. The strength of the economy was one factor that determined unemployment. Labor market rigidities and wage structures also caused youth unemployment. Unemployment causes social anxiety, isolation, and depression among youth. Sharing knowledge and opportunities among youth through local and international platforms can reduce unemployment. Employment can be improved by developing mentorship between experienced individuals or groups and youth to transfer knowledge and job opportunities.

Credit: NGN Research



## SECTION C: 5 MARKS EACH

11. **Choose all** the options that are the causes of global youth unemployment.

(A) Rise in prices of goods and services.

(B) Mental health issues among youth.

(C) Labour market rigidities

(D) Wage structures

(E) Weak economy

12. **Choose** the option(s) that are the impacts of global youth unemployment.

(A) Rise in prices of goods and services

(B) Mental health issues among youth.

(C) Strong economy

(D) Corruption in the government

(E) Increase in population

## SECTION C: 5 MARKS EACH

13. **Choose all** the options that are the solutions to tackle global youth unemployment.

(A) Mentoring the youth.

(B) Increasing job qualification requirements

(C) Promoting platforms that share knowledge and opportunities.

(D) Promoting local businesses

(E) Raising the prices of goods and services.

## SECTION C: 5 MARKS EACH

14. Here are some statements regarding global unemployment among youth:

**Statement 1:** Unemployment increases as a result of a lack of skill sets among youth.

**Statement 2:** Lack of experienced individuals in the tech industry to mentor the youth.

**Statement 3:** Economic growth and development are affected in many countries.

**Choose** the correct option(s) from the following.

(A) Statement 2 is the cause, and statement 3 is the effect.

(B) Statement 1 is the cause, and statement 3 is the effect.

(C) Statement 1 is the cause, and statement 2 is the effect.

(D) Statement 2 is the cause, and statement 1 and 3 is the effect.

(E) All statements are the causes.



## SECTION C: 5 MARKS EACH

15. Here are four statements regarding the housing issues in Kolkata, India. But they are not in the correct order. Rearrange the sentences to make a meaningful paragraph. **Choose** the correct order.

**(1)** This has led to overcrowding in some areas and the development of slums. **(2)** To help address this issue, the government of Kolkata has implemented various initiatives to provide affordable housing options for its residents. **(3)** Kolkata is a city in India facing housing issues for many years. **(4)** Many people who live in Kolkata struggle to find affordable and safe places to live.

(A) 3, 4, 1, 2
(B) 3, 4, 2, 1
(C) 3, 2, 1, 4
(D) 3, 2, 4, 1
(E) 4, 3, 2, 1







# ANSWER KEY

**Preparatory Classes Available**

**Step-Wise Solution Available**

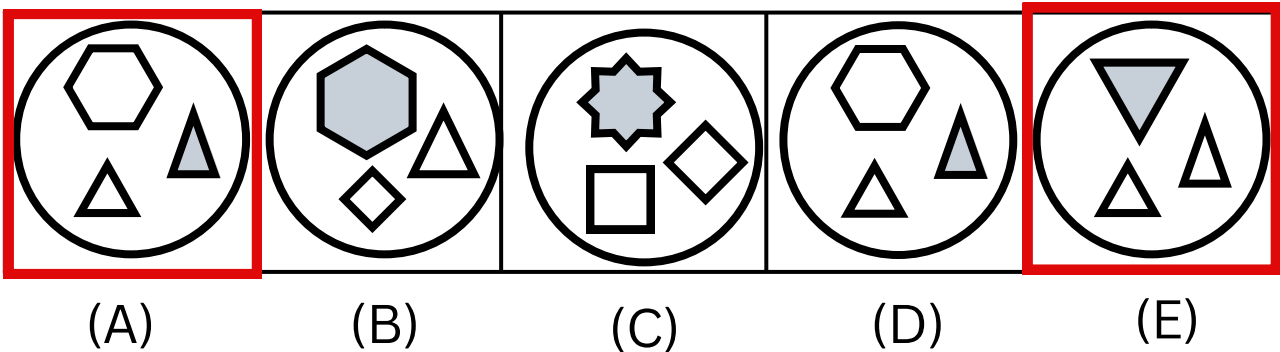
**[NGNLearning.com/Logic-Olympiad](https://NGNLearning.com/Logic-Olympiad)**

## SECTION B: ANSWER KEY

1. (A), (E)

**Step 1:** The number of yellow seashells is always 1 greater than the number of blue seashells.

**Step 2:** The number of red seashells is always 1 greater than the number of green seashells.



2. (B), (E)

**Step 1:** (B) and (E) are not about the energy crisis.

(A) *Due to climate change, natural disasters like tornadoes often hit the Philippines, destroying electricity lines.*

(B) *The direct impact of land degradation has been deterioration in food availability, soil fertility, protection of wood, and groundwater recharge.*

(C) *Due to the high demand for power during the human catastrophe, there were regular power outages and unplanned maintenance.*

(D) *The Philippines depended heavily on coal imports for power generation. Since the price of coal imports increased, the cost of electricity increased.*

(E) *Due to high-tech agricultural companies taking over their land, small-scale farmers lost their jobs.*

## SECTION B: ANSWER KEY

3. (A), (C), (D),(E)

**Step 1:** Statement 2 is the cause, and Statement 1 is its effect.

(A) Statement 1 is the cause, and Statement 2 is its effect.

(B) Statement 2 is the cause, and Statement 1 is its effect.

(C) Statement 3 is the cause, and Statement 1 is its effect.

(D) Statement 2 is the cause, and Statement 3 is its effect.

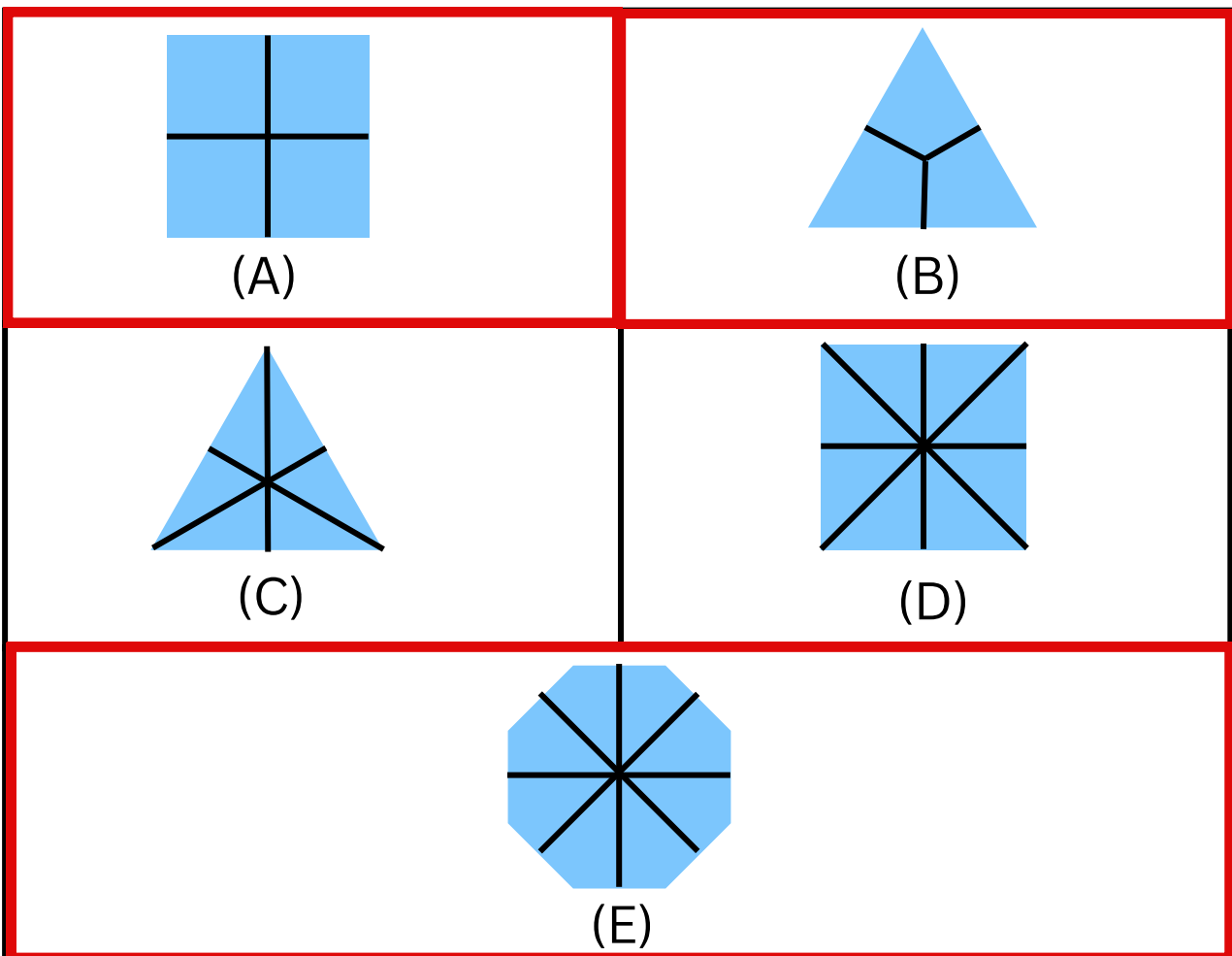
(E) All the statements are independent causes.

## SECTION B: ANSWER KEY

4. (A), (B), (E)

**Step 1:** The rule is that all the lines start at the center of the polygon and end at the center of the sides.

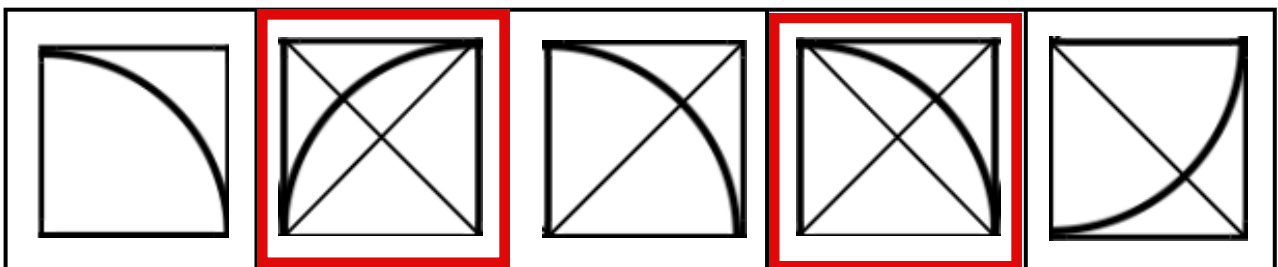
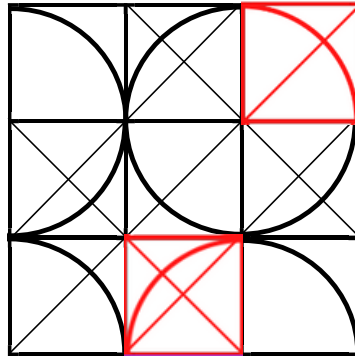
**Step 2:** (C) and (D) do not follow this rule.



## SECTION B: ANSWER KEY

5. (B), (D)

**Step 1:**



(A)

(B)

(C)

(D)

(E)

## SECTION B: ANSWER KEY

6. (C)

**Step 1:** (1) Unprecedented floods have been reported in many parts of Pakistan due to climate change.

(4) Summers can be wet due to short intervals of rainfall, but Pakistan's residents haven't experienced continuous rainfall for two months.

(2) Before, temperatures rose to 40 degrees Celsius due to extreme heat.

(3) As a result of these high temperatures, glaciers in the nearby mountains melted.

<b>2, 3, 4, 1</b>	<b>4, 1, 2, 3</b>	<b>1, 4, 2, 3</b>	<b>1, 2, 4, 3</b>	<b>4, 2, 3, 1</b>
(A)	(B)	(C)	(D)	(E)

## SECTION B: ANSWER KEY

7 -8.

**Step 1:** Farida is the immediate right to Rawad.

R F

**Step 2:** Cole is the immediate right of Dawn.

D C

**Step 3:** Harsh is seated adjacent to both Farida and Ganga.

F H G



or

G H F



**Step 4:** Farida is sitting third to the left of Beatrice.

R F H G B

7.

**Step 5:** Beatrice is not sitting at the end.

Possibilities: R F H G B D C K

K R F H G B D C

D C R F H G B K

Kyle	Rawad	Farida	Dawn	Cole
(A)	(B)	(C)	(D)	(E)

## SECTION B: ANSWER KEY

8. (B), (E)

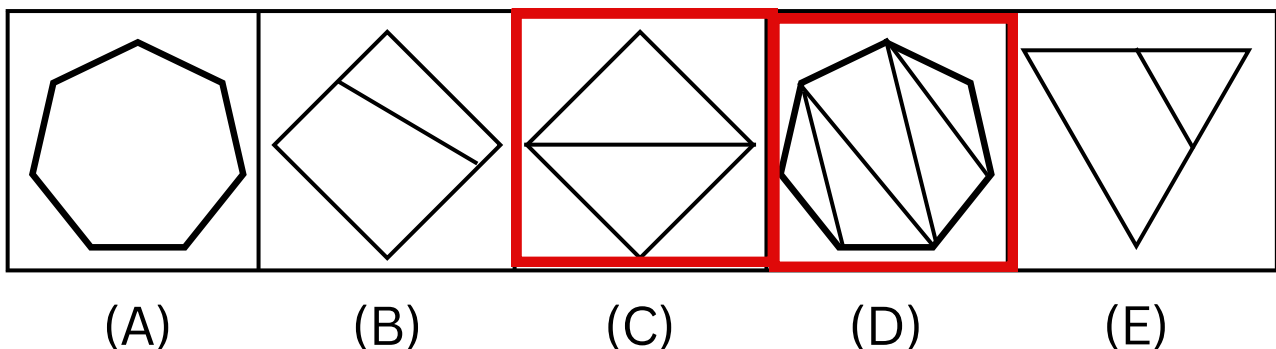
**Step 6:** Beatrice is sitting at the end.

Possibilities:    **K D C A F H G B**

<b>Ganga</b>	<b>Farida</b>	<b>Beatrice</b>	<b>Dawn</b>	<b>Cole</b>
(A)	(B)	(C)	(D)	(E)

9. (C), (D)

**Step 1:** The rule is that all the lines pass from one corner to the other, and there is at least one line.  
(C) and (D) follows that rule.





## SECTION B: ANSWER KEY

10. (C), (D)

**Step 1:** Statement 1 is the cause, and statement 2 is the effect.

**Step 2:** Statement 1 is the cause, and statement 3 is the effect.

(A) Statement 2 is the cause, and statement 3 is the effect.

(B) Statement 2 is the cause, and statement 1 is the effect.

(C) Statement 1 is the cause, and statement 2 is the effect.

(D) Statement 1 is the cause, and statement 3 is the effect.

(E) All statements are the causes.

## SECTION C: ANSWER KEY

11. (C), (D), (E)

The causes include a rigid labor market, income structure, and economic imbalance.

(A) Rise in prices of goods and services.

(B) Mental health issues among youth.

(C) Labour market rigidities

(D) Wage structures

(E) Weak economy

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12. (B)

The impacts include: Mental health of the younger generation is getting affected.

(A) Rise in prices of goods and services

(B) Mental health issues among youth.

(C) Strong economy

(D) Corruption in the government

(E) Increase in population

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## SECTION C: ANSWER KEY

13. (A), (C)

The solutions include Mentoring the younger generation and sharing knowledge and opportunities.

(A) Mentoring the youth.

(B) Increasing job qualification requirements

(C) Promoting platforms that share knowledge and opportunities.

(D) Promoting local businesses

(E) Raising the prices of goods and services.

14. (B)

**Step 1:** Statement 1 is the cause, and statement 3 is the effect.

(A) Statement 2 is the cause, and statement 3 is the effect.

(B) Statement 1 is the cause, and statement 3 is the effect.

(C) Statement 1 is the cause, and statement 2 is the effect.

(D) Statement 2 is the cause, and statement 1 and 3 is the effect.

(E) All statements are the causes.

## SECTION C: ANSWER KEY

15. (A)

**Step 1:** The correct order of the sentences is:

(3) Kolkata is a city in India that has been facing housing issues for many years.

(4) Many people who live in Kolkata struggle to find affordable and safe places to live.

(1) This has led to overcrowding in some areas and the development of slums.

(2) To help address this issue, the government of Kolkata has implemented various initiatives to provide affordable housing options for its residents.

(A) 3, 4, 1, 2
(B) 3, 4, 2, 1
(C) 3, 2, 1, 4
(D) 3, 2, 4, 1
(E) 4, 3, 2, 1