



SECTION – A
(READING SKILLS) **(22 Marks)**

1. Read the passage carefully : **12 M**

Chronobiology : The Science of Time is within Us.

- (1) Beneath the conscious rhythm of our waking lives lies a subtler, deeply embedded tempo of our body's internal clock, orchestrated by the field of chronobiology. This clock doesn't tick with mechanical precision but rather responds to cues from nature: the rising sun, the fading light, or the temperature of the wind. Governed by the suprachiasmatic nucleus in the brain, this circadian rhythm aligns our sleep, metabolism, hormone release, and even mood with the 24-hour cycle.
- (2) Scientists have discovered that disrupting this internal clock whether through jet lag, night shifts, or excessive exposure to screens can lead to a biological desynchronization that affects everything from digestion to memory. A study from the University of Colorado found that just one week of camping away from artificial light, resets participants' circadian rhythm entirely. The body, it seems, remembers the sun even when the mind forgets.
- (3) What's striking is the clock's inflexible loyalty to nature. Artificial attempts to override it such as caffeine-induced wakefulness or screen-induced sleeplessness may work temporarily but often has a hidden cost : chronic fatigue, hormonal imbalance, and weakened immunity. Its not just sleep we lose, it's the invisible equilibrium that our biology depends on.

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- (4) Modern life, with its blurring of day and night, has birthed what experts call 'social jet lag' a state where our societal obligations pull us in one temporal direction, while our biology tugs us in another. Adolescents are particularly vulnerable, as their natural clocks shift later during puberty, clashing with early school timings. The result ? A generation persistently deprived of meaningful rest.
- (5) What is the way forward – we need to understand that sleep deficiency and chronic fatigue are considered major risk factors for diseases, depression, and accidents. People must take care of sleep hygiene at regular time, avoid screen time before bed time, and ensure comfortable conditions. Taking short breaks for stretching, breathing, or a few hours of exercise reduces tension. When body demands rest, it should not be ignored. One must respond to it rather than ignoring it.
- (6) Chronobiologists argue that respecting internal time could transform public health. Adjusting school hours, designing light-conscious architecture or aligning work shifts with biological peaks could reduce stress and enhance productivity. As we continue racing against time, perhaps the most radical act is to slow down and listen to the timekeepers within us quiet, persistent and wise.

Answer the following questions based on the above passage :

- (i) According to paragraph 1, what role does the suprachiasmatic nucleus play in our daily lives ? 1
- (ii) How does the author use the metaphor 'the body remembers the sun even when the mind forgets' in paragraph 1 ? 1

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- (iii) Read and complete the following sentence suitably (Para 2).

The phrase biological desynchronization refers to the state in which the :

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Choose the correct response from the two options to complete the sentence.

(A) body's natural rhythms no longer align with external time cues.

(B) brain stops producing hormones due to stress.

- (iv) Complete the following suitably with ONE advantage with reference to Para 2.

Designating specific hours/days for screen free activity can help _____.

1

- (v) Why does the writer refer to the circadian clock's loyalty to nature as inflexible ? (Para 3)

1

(A) operates independently of external environments.

(B) resists manipulation through artificial means.

(C) helps regulate heart rate very quickly.

(D) is governed generally by only genetics.

- (vi) Provide ONE textual evidence to support 'The body pays a hidden price for tampering with its natural rhythms'. (Para 3)

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- (vii) In the line '... societal obligations pull us in one temporal direction, while our biology tugs us in another', what does this contrast reveal about modern life ? (Para 4)

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(viii) Scientists use the term 'social jet lag' in paragraph 4 to describe the modern sleep crisis to \_\_\_\_\_. **1**

(A) compare how schedules disrupt our internal clock, similar to time zone travel confusion.

(B) show that digital tools help improve sleep and daily performance in modern life.

(C) suggest that regular travel is needed to maintain focus and healthy body rhythms.

(D) points out that teenagers stay awake late at night without valid biological reasons.

(ix) Explain why adolescents may be at risk of internal time disruption. (Para 4-5) **2**

(x) Based on paragraph 6, identify possible obstacles to applying chronobiological principles in everyday life. **2**

2. Read the passage carefully : **10 M**

**The Rise of Urban Farming in Indian Cities :**

**A sustainable future or Fleeting Trend**

**Introduction :**

(1) As India's metropolises swell under the weight of population growth, pollution and food insecurity, a quiet revolution is unfolding on rooftops and balconies : urban farming. Once seen as a hobby for the eco-conscious elite, urban agriculture is now being explored as a practical solution to city-based food shortages, environmental degradation, and even mental health challenges.

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Introduction :

- (1) As India’s metropolises swell under the weight of population growth, pollution and food insecurity, a quiet revolution is unfolding on rooftops and balconies : urban farming. Once seen as a hobby for the eco-conscious elite, urban agriculture is now being explored as a practical solution to city-based food shortages, environmental degradation, and even mental health challenges.



Methodology – survey – explanation

- (2) In 2024, a survey by the Indian Institute of Sustainable Agriculture revealed that 1 in 7 urban households in Tier-1 cities like Delhi, Mumbai, and Bengaluru, now practise some form of food cultivation ranging from herbs on kitchen shelves to aquaponic systems on terraces. The motivations are varied : some grow spinach and tomatoes to escape pesticide exposure, while others experiment with hydroponics as a side hustle. Municipal authorities are also catching on; in Chennai and Pune, tax rebates and community grants are now offered to promote green roof tops.

Results :

(3)

| Year | City      | % of Households Engaged | Notable Initiatives            |
|------|-----------|-------------------------|--------------------------------|
| 2022 | Bengaluru | 9%                      | ‘Grow Your Own Food’ Campaign  |
| 2023 | Delhi     | 11%                     | Rooftop farming subsidy scheme |
| 2024 | Pune      | 15%                     | Terrace Garden Tax Rebate      |
| 2025 | Hyderabad | 18% (projected)         | App-based Micro Farm Programme |

Data Table : Urban Farming Trends (2022-2025)

Effects :

Advocates urge that farming reduces ‘food miles’ (the distance food travels from farm to fork), improves air quality, and reconnects city dwellers with the rhythms of nature. Critics, however, are skeptical. They argue that lack of space, high initial costs for equipment, and unreliable yields make urban farming unsustainable at scale. Moreover, without regulation, concern about rooftop safety and water use efficiency persists.



### Implications :

- (4) Still, the momentum is growing. NGOs like 'Haryali' and start-ups like 'Rangeen' have emerged, offering seed kits, app-based guidance and balcony farming workshops. For young professionals navigating fast-paced lives, this offers something tangible : control, calm and climate action, all from a window ledge.

### Conclusion :

- (5) Whether urban farming becomes a permanent fixture of Indian city life or remains a well-intentioned trend will depend not just on individual choices but on how cities plan, regulate and integrate agriculture into their concrete jungles.

### **Answer the following questions, based on the above passage :**

Complete the following suitably :

- (i) In the introduction (Para 1), the writer emphasizes on the transformative potential of a quiet revolution by \_\_\_\_\_. 1
- (ii) What would the following be classified as ? 1

'In Chennai and Pune, tax rebates and community grants are now offered to promote green roof tops'.

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|---------------------|------------------|
| (A) primary purpose | (B) incentives   |
| (C) methodology     | (D) implications |

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- (iii) Based on the passage, why might people opt to grow spinach and tomatoes on their own at home rather than purchasing them ? (Para 2) 1
- (iv) If the current trend as depicted in the table continues, which Indian city is most likely to emerge as a national model for tech-integrated urban farming by 2026 ? Give your reasoning. 2
- (v) Analyze from the given data, what distinguishes Pune's approach from Hyderabad's in encouraging urban farming ? 1
- (vi) Write any two major challenges that have catalyzed the rise of urban farming. 1
- (vii) Name two incentives provided by NGOs or start-ups that encourage urban farming. How does this movement benefit the urban workforce ? (Para 4) 2
- (viii) Which of the following is NOT a challenge associated with urban farming, according to the passage ? 1
- (A) limited space availability
- (B) excessive food production
- (C) high equipment costs
- (D) inconsistent production
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