

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer :

1. The word herb is derived from
 - (a) Herbarium
 - (b) Herba
 - (c) Herbaum
 - (d) Harba
2. Unani medicine is heavily influenced by the teachings of which ancient Greek physician?
 - (a) Avicenna
 - (b) Hippocrates
 - (c) Paracelsus
 - (d) Galen
7. Which Indian medicinal plant is known for its potent antibacterial properties and is often used in toothpaste and oral care products?
 - (a) Amla (Indian Gooseberry)
 - (b) Tulsi (Holy Basil)
 - (c) Neem
 - (d) Ashwagandha
8. What Indian medicinal plant is renowned for its antimicrobial and antiviral properties and is used in Ayurveda to boost the immune system?
 - (a) Guduchi (Giloy)
 - (b) Moringa
 - (c) Fenugreek
 - (d) Cardamom
9. When testing the antifungal activity of a medicinal plant extract, which fungal growth inhibition assay is commonly employed?
 - (a) ELISA
 - (b) Hemagglutination assay
 - (c) Agar well diffusion assay
 - (d) Nuclear Magnetic Resonance (NMR)
10. What is the role of a preservative in cosmetic products?
 - (a) To accelerate microbial growth
 - (b) To maintain a stable pH level
 - (c) To prevent the growth of harmful microorganisms
 - (d) To add fragrance to the product
3. Neem leaves, commonly used in Ayurveda, are known for their effectiveness in treating which of the following conditions?
 - (a) Malaria
 - (b) Diabetes
 - (c) Skin disorders
 - (d) Hypertension
4. What is the primary benefit of consuming Amla (*Emblca officinalis*)?
 - (a) Skin lightening
 - (b) Hair growth
 - (c) Boosting the immune system
 - (d) Weight loss
5. Which dosha, according to Ayurveda, is often balanced by Tulsi consumption?
 - (a) Vata
 - (b) Pitta
 - (c) Kapha
 - (d) Prakriti
6. Garlic, *Allium sativum*, is well-known for its potential health benefits. Which of the following is a prominent component in garlic responsible for many of these benefits?
 - (a) Capsaicin
 - (b) Allicin
 - (c) Curcumin
 - (d) Resveratrol
11. Microbes can be found in various cosmetic products. What role do probiotic bacteria play in cosmetics?
 - (a) Enhancing fragrance
 - (b) Preserving product shelf life
 - (c) Improving skin health
 - (d) Adding color to the product
12. What corrective action is typically taken if a critical control point (CCP) in cosmetic manufacturing is not within the specified limits?
 - (a) Increase product price
 - (b) Improve the product's texture
 - (c) Adjust the process to bring it within limits
 - (d) Change the product fragrance
13. A cosmetic microbiology test that evaluates a product's resistance to microbial growth is known as:
 - (a) Sensory analysis
 - (b) Challenge test
 - (c) Shelf-life testing
 - (d) Patch testing
14. Which of the following is a common biological toxicology test used to assess acute toxicity?
 - (a) LD50 test
 - (b) Ames test
 - (c) ELISA
 - (d) PCR

15. Parabens are a group of preservatives commonly used in cosmetics. Which of the following is a potential concern associated with parabens?

- (a) Skin hydration
- (b) Allergenic reactions
- (c) Enhanced product fragrance
- (d) improved product stability

PART B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

16. (a) What are the significant roles and applications of Indian medicinal plants in traditional and modern healthcare?

Or

(b) What are the fundamental principles and key concepts of Ayurveda, and how does this traditional Indian system of medicine promote holistic health and well-being?

17. (a) What are the medicinal properties and traditional uses of *Piper longum*?

Or

(b) How is a stock solution prepared? and what are the essential steps and considerations in its preparation for use in laboratory or industrial applications?

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PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

21. (a) How do Indian medicinal plants contribute to the treatment of fungal diseases and what are the key plant-based compounds involved in their antifungal effects?

Or

(b) What is the scope and diverse range of applications of Indian medicinal plants?

22. (a) What are the medicinal properties, traditional uses, and potential modern applications of *Allium sativum*?

Or

(b) What are the differences and applications of the hot and cold extraction methods?

23. (a) What are the key principles and applications of macro and micro dilution techniques in microbiology?

Or

(b) What is the antibacterial activity of medicinal plants, and how can it be assessed?

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18. (a) How is the in-vitro antifungal activity of medicinal plants determined, and what are the potential implications for their use in healthcare?

Or

(b) What are cell lines? and how are they important in various scientific and medical research applications?

19. (a) What is the historical evolution of cosmetics and their cultural significance?

Or

(b) How are sanitary practices implemented in cosmetic manufacturing to ensure product safety and quality?

20. (a) What is the purpose and methodology of biological toxicological testing?

Or

(b) What are the safety concerns and regulatory evaluations of cosmetic preservatives?

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24. (a) How are cosmetics preserved to ensure their safety and longevity?

Or

(b) What are the antimicrobial properties of Tulsi and how is it used in traditional and modern medicine to combat microbial infections?

25. (a) What is the importance of validation methods in scientific research and industry and how are they typically conducted?

Or

(b) What is the purpose and process of biological toxicological testing for assessing the safety of substances and products?

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