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**Five Year Integrated (M. Tech.) (Semester - I) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Cosmetic Chemistry - I (CT101)**

Day & Date: Sunday, 16-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos.1 and 2 are compulsory.
2) Attempt any Three questions from Q.No.3 to Q.No.7.
3) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternative. (MCQ) 10

- 1) The limit test of Arsenic (As) involves the use of _____ paper.
 - a) HgCl_2
 - b) HgI_2
 - c) HgBr_2
 - d) Litmus
- 2) The limit test is used to fix the _____ of tolerance of impurity.
 - a) Detection
 - b) Output
 - c) Input
 - d) Limit
- 3) The substance which completely dissociates and gives more number of H^+ ions in solution is known as _____.
 - a) Weak acid
 - b) Strong acid
 - c) Strong base
 - d) Weak base
- 4) The term 'HIn' indicates the _____ form of acid.
 - a) Dissociated
 - b) Undissociated
 - c) Soluble
 - d) Partial Soluble
- 5) In potentiometric method of end point determination, the reference electrode is _____.
 - a) Glass electrode
 - b) Saturated calomel electrode
 - c) Calomel electrode
 - d) Platinum wire
- 6) Oracet blue-b indicator gives _____ colour in basic medium.
 - a) Pink
 - b) Yellow
 - c) Blue
 - d) Green
- 7) Cosmetic thickeners change the _____ of solution.
 - a) Viscosity
 - b) Surface tension
 - c) Both a and b
 - d) none of the above
- 8) _____ indicator is often used in non-aqueous titration.
 - a) Crystal Violet
 - b) Oracet blue-b
 - c) Phenolphthalein
 - d) Eriochrome black-T
- 9) In acidic Buffer solution, the sodium acetate is considered as _____ electrolyte.
 - a) Weak
 - b) Strong
 - c) Neutral
 - d) Inactive

- 10) According to Lewis theory, the acid is defined as a substance which accepts _____.
a) H⁺ b) Proton
c) Electron pair d) Hydroxyl

B) Identify TRUE/FALSE.**06**

- 1) Dithiazone reagent used for the limit test of Arsenic.
- 2) The Arsenic is converted to Arsine gas by the action of KI as catalyst.
- 3) The acid-base titration curve has 'S' shape.
- 4) Acidic Buffer solution is the mixture of strong acid and its salt.
- 5) Potentiometric method is used to determine end point of aqueous titration.
- 6) Lipid thickeners contains lipophilic materials.

Q.2 Answer the following.**16**

- a) Define the test for purity and explain the tests used to check the purity of substance.
- b) Explain in detail limit test for Arsenic.
- c) Define standard solution and discuss primary and secondary standard.
- d) Write down the application of non-aqueous titration.

Q.3 Answer the following.**16**

- a) Explain the non-aqueous titration of weak base with perchloric acid.
- b) Explain the methods used to determine the end point in non-aqueous titration.

Q.4 Answer the following.**16**

- a) Explain Lowry-Bronsted and Lewis Acid-Base theory.
- b) Write a note on naturally derived thickeners.

Q.5 Answer the following.**16**

- a) Mention and explain any six sources of impurities and their control in raw materials.
- b) Explain limit test for chlorides and sulphate.

Q.6 Answer the following.**16**

- a) Explain crystal violet and oracet blue-b indicator used in non-aqueous titration.
- b) Explain in detail mechanism of Buffer action with example.

Q.7 Answer the following.**16**

- a) Discuss the types of cosmetic thickeners.
- b) Write a note on acid-base indicator.

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No.

**Five Year Integrated (M. Tech) (Semester - I) (New) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Fundamentals of Anatomy and Physiology (CT102)

Day & Date: Monday, 17-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7
3) Figure to right indicate full marks.

Q.1 A) Choose correct alternative. (MCQ)

10

- 1) Which of the following is a functional unit of a body?
 - a) Mitochondria
 - b) Cytoplasm
 - c) Spleen
 - d) Cell
- 2) In which of the following type of cells the cell junction is abundant?
 - a) Cardiac cells
 - b) Prokaryotic cells
 - c) Hepatic cells
 - d) Epithelial cells
- 3) Which of the following cell doesn't contain a cell wall?
 - a) Plant cell
 - b) Bacteria
 - c) Fungi
 - d) Animal cell
- 4) Which of the following is involved in immune responses?
 - a) WBCs
 - b) RBCs
 - c) Platelets
 - d) blood plasma
- 5) What is the average life span of RBCs?
 - a) 8-10 days
 - b) 4 months
 - c) 6 years
 - d) 2 years
- 6) What is the main function of neutrophil?
 - a) liberate heparin
 - b) liberate histamine
 - c) destroys bacteria with WBC
 - d) blood clotting
- 7) Which of the following is not the function of skin?
 - a) calcium production
 - b) Protection
 - c) excretion of wastes
 - d) temp regulation
- 8) Which of the following part of a neuron receives information from other neurons?
 - a) myelin sheath
 - b) Dendrites
 - c) cell body
 - d) axon
- 9) Which of the following is/are responsible for identification of colour?
 - a) Rods
 - b) Cones
 - c) both a and b
 - d) none of the above
- 10) What is the outermost layer of the eye known as?
 - a) Sclera
 - b) Cornea
 - c) Choroid
 - d) Retina

- B) Write true and false.** **06**
- 1) Cartilage holds the eye lenses in the place.
 - 2) Study of blood cells is called as Hematology.
 - 3) Baby skin is more sensitive than adult skin.
 - 4) Hair is made up from protein.
 - 5) Nucleus is present in human RBC.
 - 6) Platelets play important role in blood clotting.
- Q.2 Answer the following.** **16**
- a) Write the functions of mitochondria and nucleus of animal cell.
 - b) Write any eight functions of blood.
 - c) Draw a neat-labeled diagram of skin
 - d) Distinguish between adult skin and baby skin
- Q.3 Answer the following.**
- a) What is cell? With neat labelled diagram explain different cell organelles of human cell. **10**
 - b) Write a note on ABO blood group system. **06**
- Q.4 Answer the following.**
- a) Describe the constituents of blood and their functions. **10**
 - b) What is plasma membrane? Give different function of plasma membrane. **06**
- Q.5 Answer the following.**
- a) Write a note on skin color and pigmentation. **10**
 - b) What is Keratinization and give its classification **06**
- Q.6 Answer the following.**
- a) What are the accessory structures of skin? Explain any one in details. **10**
 - b) With well labeled diagram explain the structure and function of sweat gland. **06**
- Q.7 Answer the following.**
- a) What are WBC's? Write the classification along with function of each type. **10**
 - b) Write a note on nervous tissue. **06**

Seat No.	
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Five Year Integrated (M. Tech.) (Semester - I) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Natural Cosmetic Agents – I (CT104)

Day & Date: Tuesday, 18-07-2023
 Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos.1 and 2 are compulsory.
 2) Attempt any Three questions from Q.No.3 to Q.No.7.
 3) Figures to the right indicate full marks.

Q.1 A) Multiple choice questions. 10

- 1) _____ is the father of ancient Ayurveda.
 - a) Maharishi Charaka
 - b) Aristotle
 - c) Seydler
 - d) Sertuerner
- 2) _____ is also called splitting fruits.
 - a) Caryopsis
 - b) Schizocarps
 - c) Samara
 - d) Achne
- 3) _____ are considered as decomposition products of cellulose.
 - a) Gums
 - b) Mucilage's
 - c) Both a and b
 - d) None of the above
- 4) Spermaceti contains ester of _____ acids.
 - a) Lauric
 - b) Myristic
 - c) Stearic
 - d) All of the above
- 5) _____ system of classification relies on the chemical similarity of a taxon.
 - a) Pharmacological classification
 - b) Chemical classification
 - c) Alphabetical classification
 - d) Chemotaxonomical classification
- 6) _____ is an outermost coating of pericarp.
 - a) Endocarp
 - b) Mesocarp
 - c) Epicarp
 - d) None of the above
- 7) Polysaccharides obtained from red, brown and green algae are used in skin care product due their _____ properties.
 - a) Anti-wrinkle
 - b) Skin-whitening
 - c) UV protection
 - d) All of the above

SLR-QG-3

- 8) Arachis oil is also known as _____.
a) Peanut oil b) Teel oil
c) Ricinus oil d) Oleum Olivae
- 9) Acacia belongs to family _____.
a) Rutaceae b) Solanaceae
c) Leguminosae d) Gramineae
- 10) Essential oil extracted from herbs is used in _____.
a) Aromatherapy b) Soaps
c) Body care creams d) All of the above

Q.1 B) Write True or False: **06**

- 1) Taxonomical classification is helpful for studying evolutionary developments.
- 2) Extracts is organized part.
- 3) Xylan is an example of hexosan.
- 4) The patterns of arrangement of leaves on the stem are called Phyllotaxy.
- 5) Lipids are the substances of animal or plant origin and comprise of fixed oils, fats and waxes.
- 6) Hippocrates (460-360 B.C.) is well known for his studies on animal kingdom.

Q.2 Answer the following. **16**

- a) Write a note on history of natural products.
- b) Distinguish between organized herbs and unorganized herbs.
- c) Define and classify carbohydrates with their examples.
- d) Write down the properties of fixed oils.

Q.3 Answer the following.

- a) Explain the following identification tests for carbohydrates **08**
 - i) Molisch's test
 - ii) Fehling's test
 - iii) Iodine test
 - iv) Bial's test
- b) Explain the alphabetical and morphological classification system of drugs **08** of natural origin along with their merits and demerits.

Q.4 Answer the following.

- a) Explain the morphology of fruit with neat labelled diagram. **08**
- b) Write down the biological source, geographical source, method of preparation, chemical constituents and the uses of Sesame oil. **08**

SLR-QG-3

Q.5 Answer the following.

- a) Draw the neat labelled diagram of roots and explain the types of root system. **08**
- b) Draw the neat labelled diagram of seeds and explain the morphology the seed. **08**

Q.6 Answer the following.

- a) Explain the development and role of natural products in cosmetic and medicine. **08**
- b) Write down the biological source, geographical source, chemical constituents and the uses of Starches. **08**

Q.7 Answer the following.

- a) Write down the biological source, geographical source, method of preparation, chemical constituents and the uses of Castor oil. **08**
- b) Draw the neat labelled diagram of leaf and add a note on modification of leaves. **08**

Seat No.	
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**Five Year Integrated (M. Tech.) (Semester - I) (New) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
English (Communication Skill) (CT103)**

Day & Date: Wednesday, 19-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7.
3) Figure to right indicate full marks.

Q.1 A) Rewrite the following sentences by choosing the correct alternative. 10

- 1) In the prose *The Portrait of a Lady* by Khushwant Singh, the author's _____ fetched some bread for sparrows after the death of his grandmother.
 - a) father
 - b) grand mother
 - c) mother
 - d) sister
- 2) As mentioned in the prose *The Portrait of a Lady*, the author Khushwant Singh travelled to school in the city _____.
 - a) by motor bus
 - b) by car
 - c) on foot
 - d) on bicycle
- 3) The name of the river island in the prose *Jadav Payeng: the Forest Man of India* is _____.
 - a) Maoli
 - b) Majali
 - c) Majuli
 - d) Majoli
- 4) According to M.K Gandhi, _____ percentage of the population in India was poverty stricken at the time of the essay *The Birth of Khadi*.
 - a) one-tenth
 - b) one-third
 - c) one-fourth
 - d) one-sixth
- 5) I am _____ (go) through a very tough time. (Use a suitable suffix and rewrite the sentence).
 - a) - es
 - b) -ing
 - c) -s
 - d) none of the above
- 6) Make the noun of the word 'resist' by using the suitable suffix and rewrite it _____.
 - a) resisted
 - b) resisting
 - c) resists
 - d) resistance
- 7) The adjective form of the word 'red' is _____.
 - a) red
 - b) redder
 - c) reddest
 - d) all of the above
- 8) As mentioned in the poem *The Lotus* by Toru Dutt, _____ flowers compete for the title in the poem *The Lotus*.
 - a) Lily and Daisy
 - b) Rose and Tulips
 - c) Rose and Daisy
 - d) Lily and Rose
- 9) The poet Rabindranath Tagore thinks that _____ is necessary to win freedom in the poem *Let Me Not Pray to be Sheltered from Dangers*.
 - a) battles
 - b) freedom movement
 - c) allies
 - d) patience

- 10) In the poem *The Toys* by Coventry Patmore, the father at last _____.
- a) hugs the boy
 - b) feeds the boy
 - c) prays
 - d) none of these

B) Write true /false.**06**

- 1) Jadav Payeng is from Kerala as mentioned in the prose *Jadav Payeng: the Forest Man of India*.
- 2) M.K. Gandhi states in the prose *The Birth of Khadi* that behind his every act he has done in his life, there is a religious consciousness as the motive.
- 3) The poet Rabindranath Tagore says that one should look for allies in the battlefield in the poem *Let Me Not Pray to be Sheltered from Dangers*.
- 4) The father in the poem *The Toys* by Coventry Patmore discovers the coins of copper in his son's room.
- 5) In the sentence "I like the way she speaks.", the part of speech of the underlined word is noun.
- 6) In the sentence "Let me go first", the underlined word in this sentence is an adjective.

Q.2 Answer the following questions.**16**

- a) What did the grandmother in the prose *The Portrait of a Lady* by Khushwant Singh do when the author returned from studies abroad?
- b) Comment on the relationship between the author and his grandmother in the prose *The Portrait of a Lady* by Khushwant Singh.
- c) What is the most deep-seated disease in India as mentioned in the prose *The Birth of Khadi* by M.K. Gandhi?
- d) What effects did the floods have as mentioned in the prose *Jadav Payeng: the Forest Man of India*.

Q.3 Answer the following.

- a) What are the various important qualities focused by Rabindranath in the poem *Let Me Not Pray to be Sheltered from Dangers*? **08**
- b) Comment on the significance of the toys in our life with reference to the poem *The Toys* by Coventry Patmore? **08**

Q.4 Answer the following

- a) Discuss the various types of manifestations of intrapersonal skills with reference to the unit prescribed for your study. **10**
- b) Do as directed. **06**
 - i) Link the following words with their correct suffix to form their noun forms and rewrite.
Words: kind, mature and decide
Suffixes: -sion, -ness, -tion, -ity, -ment, -al etc.
 - ii) Link the following words with their correct suffix to form their adjective forms and rewrite.
Words: girl, hope and fool
Suffixes: -ish, -less, -ful, -ly, -al etc.

Q.5 Answer the following.

- a) Write a descriptive essay on 'A Memory of Someone whom you Miss in Your Life'. **10**
- b) Describe the character of the grandson with reference to the prose *The Portrait of a Lady* by Khushwant Singh. **06**

Q.6 Answer the following.

- a) Write an essay on the time when you discovered something about yourself that you did not notice before in your life. Narrate it with the incidents. **10**
- b) What are the themes in the poem *The Toys* by Coventry Patmore? **06**

Q.7 Answer the following.

- a) What is communication? Describe the process of communication in detail. **10**
- b) Write a note on the character of grandmother as depicted by Khushwant Singh in the prose *The Portrait of a Lady*. **06**

Seat No.	
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**Five Year Integrated (M. Tech.) (Semester - I) (New) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Fundamental Chemistry (CT109)**

Day & Date: Thursday, 20-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7
3) Figure to right indicate full marks.

Q.1 A) Rewrite the following sentences by choosing the correct alternative. 10

- 1) The process of combination of monomers is called as _____.
a) Cyclization b) Polymerization
c) Condensation d) None of these
- 2) _____ polymers generally do not contain carbon in their backbone.
a) Organic b) Inorganic
c) Both d) None of these
- 3) _____ is naturally occurring polymer.
a) Cotton b) Silk
c) Wool d) all of these
- 4) Rubber is an example of _____.
a) Elastomer b) Thermoplastics
c) Thermosetting d) None of these
- 5) Order of esterification reaction of alcohols is _____.
a) $3^{\circ} > 1^{\circ} > 2^{\circ}$ b) $2^{\circ} > 3^{\circ} > 1^{\circ}$
c) $1^{\circ} > 2^{\circ} > 3^{\circ}$ d) None of these
- 6) Which of the following is phenol _____.
a) Cresol b) Cetachol
c) Resorcinol d) All of these
- 7) Vinegar is primarily composed of _____.
a) Tartaric acid b) Citric acid
c) Acetic acid d) Nitric Acid
- 8) Ester is formed by a reaction between _____ and _____.
a) Carboxylic acid and an alcohol
b) An acid and a base
c) An alkane and an alcohol
d) A ketone and an alcohol
- 9) _____ is a characteristic of detergent?
a) Hydrophobic
b) Hydrophilic
c) Hydrophobic and Hydrophilic
d) None
- 10) $ArH + \underline{\hspace{1cm}} \rightarrow ArNO_2 + H_2O$
a) HNO b) HNO₂
c) HNO₃ d) Not needed

- B) Fill in the blanks.** **06**
- 1) The synthetic fibers are also known as _____ fibers.
 - 2) The viscosity of liquids _____ with increase in temperature.
 - 3) Dipole moment is a _____ quantity.
 - 4) A _____ is a chain of many small units of monomers joined together.
 - 5) The nitrating agent is a _____ reactant.
 - 6) The process of conversion of sugar into alcohol is called _____.

- Q.2 Answer the following questions.** **16**
- a) Write down the various uses of silicon molecule.
 - b) Write down the classification of alcohols.
 - c) Explain thermoplastic polymer.
 - d) Explain pincol -pinacolone rearrangement in detail.

- Q.3 Answer the following.**
- a) Explain the formation of nitronium ion in detail and explain nitration reaction with suitable example. **08**
 - b) Discuss properties and reactions of glycerol. **08**

- Q.4 Answer the following**
- a) Explain in detail the viscosity of liquid. **08**
 - b) Write down the various methods involved in formation of glycol? **08**

- Q.5 Answer the following.**
- a) Explain intermolecular forces and its impact on state of matter in details. **08**
 - b) Difference between organic and inorganic polymer. **08**

- Q.6 Answer the following.**
- a) Write down the classification of an organic and an inorganic polymer in details. **08**
 - b) Explain in detail the homoatomic inorganic polymer containing phosphorus. **08**

- Q.7 Answer the following.**
- a) Explain aromatic nitration with respect to Ortho Para ratio, Inductive effect and Reaction medium. **08**
 - b) Explain condensation process with neat labelled diagram. **08**

Seat
No.

**Five Year Integrated (M. Tech.) (Semester - I) (Old) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Cosmetic Chemistry - I (CT01101)**

Day & Date: Sunday, 16-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
2) Answer to all questions are to be written in one answer book only.
3) All questions carry equal marks.
4) Figures to the right indicate full marks.
5) Draw neat labeled diagram wherever necessary.
6) Use of calculator and log table is allowed.

Q.1 Multiple Choice Questions.**14**

- 1) When ionic product is _____ solubility product, then only saturation occurs.
 - a) More than
 - b) Less than
 - c) Equal to
 - d) All of the above
- 2) Pure compound do not contain _____.
 - a) Impurity
 - b) Foreign matter
 - c) Both a and b
 - d) All of the above
- 3) pH of milk is _____.
 - a) 3
 - b) 2
 - c) 7
 - d) 5
- 4) _____ compounds are analyzed in Non aqueous titration.
 - a) Weak acid or base
 - b) Strong acid or base
 - c) Both a and b
 - d) None of the above
- 5) _____ is Lewis base.
 - a) SO₂
 - b) NH₃
 - c) OH⁻
 - d) All of the above
- 6) Limit test is must be _____.
 - a) Specific
 - b) Sensitive
 - c) Both a and b
 - d) None of the above
- 7) _____ is used as a solvent in non-aqueous titration.
 - a) Water
 - b) Chloroform
 - c) Glacial acetic acid
 - d) Both b and c
- 8) _____ is basic radical.
 - a) Na⁺
 - b) I⁻
 - c) Cl⁻
 - d) None of the above
- 9) _____ is example of toxic impurities.
 - a) Lead
 - b) Arsenic
 - c) Both a and b
 - d) None of the above
- 10) pH of base is _____.
 - a) 1
 - b) 7
 - c) 10
 - d) None of the above

Seat No.	
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**Five Year Integrated (M. Tech) (Semester - I) (Old) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Anatomy & Physiology – I (CT01102)**

Day & Date: Monday, 17-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

- Instructions:**
- 1) All questions are compulsory.
 - 2) Answer to all questions are to be written in one answer book only.
 - 3) All questions carry equal marks.
 - 4) Figures to the right indicate full marks.
 - 5) Draw neat labelled diagrams and give equations whenever necessary.
 - 6) Use of calculator and log table is allowed.

Q.1 Multiple choice questions.

14

- 1) Cell membrane is also called as _____.

a) Plamsalemma	b) Plasma membrane
c) Both a and b	d) All of the above

- 2) Which of the following is connective tissue

a) Areolar tissue	b) Adepose tissue
c) Both a and b	d) All of the above

- 3) Which of the following are layers of skin

a) Epidermis	b) Dermis
c) Both a and b	d) None of the above

- 4) Soft kertain is present in

a) Hair	b) Skin
c) Nail	d) None of the above

- 5) Temporary teeth are _____ in number.

a) 20	b) 15
c) 8	d) 32

- 6) Retina contains special structures called

a) Rods	b) Cones
c) Both a and b	d) None of the above

- 7) Melanin is the pigment that determine colour of

a) Skin	b) Hairs
c) Eye	d) All of the above

- 8) Endocrine glands are

a) Ductless gland	b) Duct gland
c) Only b	d) None of the above

Q.5 Answer the following. (Any Two)

- a)** Explain the anatomy of skin.
- b)** Define tissue. Write note on epithelial tissues.
- c)** Write note on colour and pigmentation of skin.

Seat
No.

**Five Year Integrated (M. Tech) (Semester - I) (Old) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Natural Cosmetic Agents - I (CT01104)

Day & Date: Tuesday, 18-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
2) Answer to all questions are to be written in one answer book only.
3) All questions carry equal marks.
4) Figures to the right indicate full marks.
5) Draw neat labeled diagram wherever necessary.
6) Use of calculator and log table is allowed.

Q.1 Select most correct alternative for the following question.

14

- 1) Leaf are _____ herbs.
 - a) Unorganised
 - b) Organised
 - c) Both a and b
 - d) None of the above
- 2) Acacia is obtained from _____.
 - a) Stem
 - b) Branches
 - c) Seeds
 - d) Both a and b
- 3) How many carbon atoms are present in Trioses?
 - a) Four
 - b) Three
 - c) Two
 - d) Six
- 4) Which of the following are unorganised herbs?
 - a) Mucilages
 - b) Latex
 - c) Extracts
 - d) All of the above
- 5) Potato belongs to family _____.
 - a) Solanaceae
 - b) Gramineae
 - c) Gelidaceae
 - d) Gracilariaceae
- 6) If the ovules do not fertilize _____ fruits are formed.
 - a) True
 - b) Seedless
 - c) False
 - d) None of the above
- 7) Which of the following are identification tests for lipids?
 - a) Using sodium hydroxide
 - b) Using sodium hydrogen sulphate
 - c) Both a and b
 - d) None of the above
- 8) Coconut oil belongs to family _____.
 - a) Palmae
 - b) Leguminosae
 - c) Pedaliaceae
 - d) Linaceae
- 9) Organised herbs are _____ in nature.
 - a) Solid
 - b) Liquid
 - c) Semisolid
 - d) All of the above

- 10) Which of the following is example of endospermic Seed?
 - a) Linseed
 - b) Sunflower
 - c) Cotton
 - d) Nutmeg
- 11) Bleaching of the oil is done by _____.
 - a) Charcoal
 - b) Fueller's earth
 - c) Both a and b
 - d) None of the above
- 12) Which of the following section is responsible for growth of root _____.
 - a) Apical meristematic section
 - b) Elongation section
 - c) Maturation section
 - d) None of the above
- 13) Starch is _____.
 - a) Monosaccharides
 - b) Disaccharides
 - c) Trisaccharides
 - d) Polysaccharides
- 14) Agar is obtained from _____.
 - a) Gelidium amansii
 - b) Gracilaria
 - c) Pterocladia
 - d) All of the above

Q.2 A) Answer the following. (Any Four) 08

- 1) Define fixed oils and fats and give classification of fixed oils and fats.
- 2) Write down the biological source and chemical constituents of coconut oil.
- 3) Classify the seeds on the basis of endosperm with explanation and example.
- 4) Define monosaccharides and give classification of monosaccharides.
- 5) Enlist the type of leaf and explain in short.

B) Write a note on. (Any Two) 06

- 1) Write note on chemical classification of drugs of natural origin.
- 2) Write a note on root.
- 3) Write a note on lattices.

Q.3 A) Answer the following. (Any two) 08

- 1) Write down the method of preparation and uses of linseed oil.
- 2) Write down the biological source chemical constituents and uses of guar gum.
- 3) Write a note on fruit.

B) Answer the following. (Any one) 06

- 1) Write down the biological source, and method of preparation of castor oil.
- 2) Write down biological sources, chemical constituents and uses of acacia.

Q.4 A) Answer the following. (Any two) 10

- 1) Write down the biological source, method of preparation, chemical constituents and uses of carnauba wax.
- 2) Write about alphabetical classification of drugs of natural origin.
- 3) Write down the biological source, chemical constituents and uses of pectin.

B) Answer the following. (Any one) 04

- 1) Distinguish between organised and unorganised drug.
- 2) Write down biological source, chemical constituents and uses of rice starch.

Q.5 Answer the following. (Any two)

- a)** Write down the general identification tests for carbohydrates.
- b)** Write down the biological source, method of preparation, chemical constituents and uses of arachis oil.
- c)** Classify the system of drug of natural origin and write a note on pharmacological classification of drug of natural origin.

Seat No.	
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**Five Year Integrated (M.Tech.) (Semester - I) (Old) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Elementary Mathematics (CT01108)**

Day & Date: Thursday, 20-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Calculator is not allowed.

Q.1 Choose the most correct alternative.

14

- 1) $1^\circ = \underline{\hspace{2cm}}$.
- | | |
|-------------------------|--------------------------|
| a) 180 rad | b) Π rad |
| c) $\frac{\Pi}{90} rad$ | d) $\frac{\Pi}{180} rad$ |
- 2) Percentage profit can be calculated by the formula $\underline{\hspace{2cm}}$.
- | | |
|--|--|
| a) $\frac{\text{Selling price} - \text{cost price}}{\text{cost price}} * 100$ | |
| b) $\frac{\text{cost price}}{\text{Selling price}} * 100$ | |
| c) $\frac{\text{cost price} - \text{Selling price}}{\text{Selling price}} * 100$ | |
| d) None of these | |
- 3) Calculate $2.689 * 5.314$
- | | |
|----------|----------|
| a) 1.428 | b) 142.8 |
| c) 1.048 | d) 14.28 |
- 4) $\frac{d}{dx} x^9 = \underline{\hspace{2cm}}$
- | | |
|-----------|-----------|
| a) x^8 | b) $9x^8$ |
| c) $8x^7$ | d) x |
- 5) $32^\circ = \underline{\hspace{2cm}}$.
- | | |
|-----------|-------------|
| a) 32 rad | b) 0.56 rad |
| c) 56 rad | d) 5 rad |
- 6) $\frac{d}{dx} \sqrt{ax} = \underline{\hspace{2cm}}$.
- | | |
|---------------------------------|-------------------|
| a) $\frac{\sqrt{a}}{2\sqrt{x}}$ | b) $\frac{a}{ax}$ |
| c) $\frac{1}{2a\sqrt{ax}}$ | d) \sqrt{ax} |
- 7) Profit can be calculated by the formula $\underline{\hspace{2cm}}$.
- | | |
|------------------------------|-----------------------------|
| a) Cost Price- Selling Price | b) Selling Price-Cost Price |
| c) Cost Price | d) Selling Price |
- 8) Mean of 2,5,8,6,4 $\underline{\hspace{2cm}}$.
- | | |
|-------|-------|
| a) 25 | b) 20 |
| c) 5 | d) 8 |

- 9) The rate of change of displacement is called as _____.
 a) Mean
 b) Velocity
 c) Acceleration
 d) Displacement
- 10) Using Logarithm, $\frac{0.45}{0.045}$
 a) 1
 b) 0.10
 c) 10
 d) 1.01
- 11) $\frac{\pi}{5}$ rad = _____.
 a) 30°
 b) 35°
 c) 36°
 d) None of these
- 12) $\frac{d}{dx} 5 = \underline{\hspace{1cm}}$
 a) 5
 b) 0
 c) 1
 d) 4
- 13) $\frac{d}{dx} \cos x = \underline{\hspace{1cm}}$
 a) $-\sin x$
 b) $-\cos x$
 c) $\sin x$
 d) $\sin x \cos x$
- 14) $\sin(\alpha - \beta) = \underline{\hspace{1cm}}$.
 a) $\sin \beta \cos \alpha + \cos \alpha \sin \beta$
 b) $\cos \alpha \sin \beta + \sin \alpha \cos \beta$
 c) $\sin \alpha \cos \beta$
 d) $\sin \alpha \cos \beta - \cos \alpha \sin \beta$

Q.2 A) Answer any four of the following

08

- 1) Define Median.
- 2) Define derivative.
- 3) State formula for Correlation coefficient.
- 4) Suppose a shopkeeper purchases a product at Rs.50 and sells it at Rs. 85. Does the shopkeeper make profit or loss?
- 5) State formula for
 - i) Chain Rule
 - ii) Quotient Rule

B) Writes notes on following. (Any Two)

06

- 1) Derivatives.
- 2) Histogram
- 3) Mode

Q.3 A) Answer the following. (Any Two)

08

- 1) Find the value of
 - i) $\cos(75)$
 - ii) $\sin(75)$
 Hence calculate $\sin(150)$
- 2) Convert the following radians into degree
 - i) 2.5 rad
 - ii) $\frac{\pi}{8}$ rad
- 3) Find the derivative of following
 - i) $e^{2x} * \log(5x)$
 - ii) $\frac{\sqrt{\log x}}{\sin x}$

B) Answer the following. (Any One) 06

- 1) Calculate standard deviation for given frequency distribution

X	2	5	9	12	15
f	0	3	5	8	12
- 2) Write note on Selling Price and Cost Price.

Q.4 A) Answer the following. (Any Two) 10

- 1) Obtain Median for following frequency distribution

X	10-20	20-30	30-40	40-50	50-60
f	8	10	12	15	18
- 2) Write note on Median
- 3) Calculate Mode for following data.

X	0-10	10-20	20-30	30-40	40-50
F	2	5	8	10	12

B) Answer the following (Any One) 04

- 1) Convert the following degrees to radians
 - 1) 85°
 - 2) 52°
- 2) Write note on Frequency distribution.

Q.5 Answer the following (Any two) 14

- a) Write note on percentage calculation.
- b) Following data gives the marks of students.

Marks	10-15	15-20	20-25	25-30	30-35	35-40
No. of students	12	8	1	11	9	5

 Draw histogram and frequency curve for given data.
- c) Write a note on function and concept of derivative.

Seat No.	
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Five Year Integrated (M.Tech.) (Semester - II) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Cosmetic Chemistry (Analytical Methods) - II (CT201)

Day & Date: Sunday, 16-07-2023
 Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos.1 and 2 are compulsory.
 2) Attempt any Three questions from Q.No.3 to Q.No.7.
 3) Figures to the right indicate full marks.

Q.1 A) Choose the correct alternative. (MCQ) 10

- 1) The nature of reaction in electrochemical cell is _____.
 a) Non-spontaneous b) Spontaneous
 c) Reversible d) All of above
- 2) The substance which allows to pass the electric current through their solution is known as _____.
 a) Solute b) Solvent
 c) Electrolyte d) Anode
- 3) The standard Hydrogen Electrode (SHE) is made up by using _____ HCl solution.
 a) 0.1 M b) 1 M
 c) 10 M d) 0.01 M
- 4) The secondary standard substances are more stable in _____ state.
 a) Solution b) Solid
 c) Solvent d) Solute
- 5) According to Ostwald's theory, for weak acid the ionization constant is _____.
 a) High b) Low
 c) Medium d) Zero
- 6) _____ filtration is widely used in personal care products.
 a) Depth b) Paper
 c) High Pressure d) none of the above
- 7) The undissociated molecules of phenolphthalein is _____ in color.
 a) Pink b) Red
 c) Colorless d) Sky blue
- 8) In complex formation, the metal ion acts as _____.
 a) Lewis acid b) Lewis base
 c) Nucleophile d) Strong base

- 9) Neutralization number is also known as _____.
a) Acid number b) Base number
c) Acidity d) both a & c
- 10) High ester value indicates the presence of _____ amount of ester.
a) High b) Low
c) Zero d) All of above

B) Identify TRUE/FALSE. 06

- 1) HCl is a strong electrolyte.
- 2) In electrochemical cell, the electron moves from anode to cathode.
- 3) EDTA is a complexing agent.
- 4) Complexometric titration curve has an *S* shape.
- 5) Rancidity is the process of incomplete reduction of fats.
- 6) Ester value is used to measure the fat content in oil.

Q.2 Answer the following. 16

- a) Define the Quinonoid Theory of indicator.
- b) Define and explain the Redox titration with example.
- c) Explain acid value and saponification value.
- d) Explain the sterilization of cosmetic products.

Q.3 Answer the following. 16

- a) Explain in detail Nernst equation.
- b) Define reducing agent with examples and give its characteristic.

Q.4 Answer the following. 16

- a) Explain in detail extraction process with its types.
- b) Explain the types of volumetric analysis.

Q.5 Answer the following. 16

- a) Write down the theories of acid-base indicator.
- b) Explain in detail the Masking and Demasking agent.

Q.6 Answer the following. 16

- a) Describe in detail the concept of complexation and chelation.
- b) Explain the metal ion indicator.

Q.7 Answer the following. 16

- a) Explain the types of Complexometric titration.
- b) Explain in detail common oxidising agent with examples.

Seat No.	
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**Five Year Integrated M. Tech. (Semester - II) (New) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Natural Cosmetic Agents – II (CT202)**

Day & Date: Monday, 17-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) Q. Nos. 1 and. 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7
3) Figure to right indicate full marks.

Q.1 A) Multiple Choice Question. 10

- 1) Mica is prepared from grinding and breaking of mica scrap by _____ process.
 - a) Dry ground
 - b) Wet ground
 - c) Both a and b
 - d) None of the above
- 2) Resins are insoluble in _____.
 - a) Ether
 - b) Water
 - c) Fixed oil
 - d) Chloral hydrate
- 3) Bahera plant produces a gum, which is used as _____.
 - a) Astringent
 - b) Antioxidant
 - c) Demulcent
 - d) Anti-wrinkle agent
- 4) _____ means debasement of an article.
 - a) Isolation
 - b) Adulteration
 - c) Purification
 - d) None of the above
- 5) Calamine contain _____ % of zinc oxide.
 - a) 0.5
 - b) 3
 - c) 20
 - d) 99
- 6) Asafoetida with 50% nitric acid gives _____ colour.
 - a) Red
 - b) Violet
 - c) Green
 - d) Deep brown
- 7) Tannins are soluble in _____.
 - a) Alcohol
 - b) Glycerin
 - c) Acetone
 - d) All of the above
- 8) Colophony which is admixed as an adulterant for resins, balsams and waxes is detected by _____.
 - a) Van Urk's reagent
 - b) Copper acetate
 - c) Halphen's test
 - d) Vitali's test
- 9) Which of the following is ingredient of mineral origin?
 - a) Amla
 - b) Talc
 - c) Harde
 - d) None of the above
- 10) Melting point range of bees wax is between _____°C.
 - a) 39-42
 - b) 34-44
 - c) 75-85
 - d) 62-65

- B) Write true /false.** **06**
- 1) Bentonite is used as suspending agent.
 - 2) Storax is balsam.
 - 3) Tannins are crystalline substances.
 - 4) Organoleptic evaluation means conclusions drawn from impression on organs of senses.
 - 5) Clays become hard, brittle and non-plastic on wet.
 - 6) Benzoin is pathological resin.
- Q.2 Answer the following questions.** **16**
- a) Explain the froth flotation process of removing impurities with neat labelled diagram.
 - b) Define the following
 - i) Oleoresins
 - ii) Oleo-gum resins
 - iii) Glycoresins
 - iv) Balsam
 - c) Write down the chemical tests for tannins.
 - d) What are the reasons for un-intentional adulteration?
- Q.3 Answer the following**
- a) Write down the source, preparation, chemical nature and uses of Mica. **08**
 - b) Write down the biological source, preparation, chemical constituents and uses of Storax. **08**
- Q.4 Answer the following**
- a) Write down the biological source, preparation, chemical constituents, chemical test and uses of Tannic acid. **08**
 - b) Explain in detail about trichomes. **08**
- Q.5 Answer the following.**
- a) Write down the chemical test, uses and types of Kaolin. **08**
 - b) Mention the properties of resins. Write down the biological source, chemical constituents and chemical tests of Colophony. **08**
- Q.6 Answer the following.**
- a) Write down the biological source, preparation, chemical constituents and chemical test of Pale Catechu **08**
 - b) What are the factors creating adulteration? Write a note on biological evaluation method for detection of adulteration. **08**
- Q.7 Answer the following.**
- a) Elaborate the general approach for extraction of different constituents from fresh plant with the help of process chart. **08**
Define:
 - i) Vein termination number
 - ii) Stomata index
 - b) Write a note on following: **08**
 - i) Types of stomata
 - ii) Leaf constant

Seat No.	
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**Five Year Integrated (M. Tech.) (Semester - II) (New) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

English (communication skill) (CT203)

Day & Date: Tuesday, 18-07-2023

Max. Marks: 40

Time: 03:00 PM To 05:00 PM

Instructions: 1) Figures to the right indicate full marks.
3) All questions are compulsory.

Q.1 Rewrite the following sentences by choosing the correct alternative. 08

- 1) I like cocktails. (Identify the tense of the sentence).
 a) Simple Present Tense b) Simple Past Tense
 c) Simple Future Tense d) Imperfect Present Tense
- 2) The word 'pretty' is synonymous with the word _____.
 a) Ugly b) Beautiful
 c) Tender d) Soft
- 3) The antonym of the word 'hero' is _____.
 a) Heroine b) Villain
 c) side Hero d) none of the above
- 4) In the poem remember the speaker addresses to _____.
 a) her step-sister b) her sister
 c) her friend d) her lover
- 5) When Alexander Pope wrote the poem *Ode on a Solitude*, he was _____.
 a) 18 b) 19
 c) 12 d) 35
- 6) The ideal of freedom, according to Rabindranath Tagore, has grown in the world _____.
 a) in the East b) in the North
 c) in the West d) in the South
- 7) The author of the prose *Does Education Do Harm?* Bertrand Russell was reading _____.
 a) Biography b) Novels
 c) Autobiography d) Poetry
- 8) _____ is the important factor in being able to hold arguments.
 a) Discourse b) Commendation
 c) Wit d) Virtue

Q.2 Answer any four of the following questions in brief. 08

- 1) Why is the mob mind allowed regarding influence of freedom, according to Rabindranath Tagore?
- 2) What are the outcomes of a psychology that deals with terror, according to Rabindranath Tagore?
- 3) What is the difference between being right and being original, according to Bertrand Russell?

- 4) What is the relation between education and virtue, according to Bertrand Russell?
- 5) What are the different kinds of discourse, according to Francis Bacon?
- 6) What is the relation between virtue and debate, according to Francis Bacon?

Q.3 Write Short notes on any two of the following questions. 08

- a) Themes in Christina Rossetti's poem *Remember*.
- b) The theme of solitude in Alexander Pope's poem *Ode on a Solitude*.
- c) The issue of environmental pollution and harmony in Niyi Osundare's poem *Our Earth Will Not Die*.

Q.4 Answer any two of the following questions. 08

- a) Describe a process of making tea.
- b) Prepare a presentation to introduce yourself in an interview.
- c) Prepare a presentation on your favorite hero.

Q.5 Answer any two of the following questions. 08

- a) Suppose that you are a NET/SET qualified candidate in Chemistry. Write a letter of application for the post of assistant Professor of Chemistry to the Principal Clongwes Wood College, Ireland.
- b) Write a letter of application for the post of assistant manager in the IT company named Wipro to its branch manager, Branch- Pune.

Seat No.		Marks Obtained		Signature of Examiner		Signature of Junior Supervisor	
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M. Tech (Semester - II) (New) Examination: March/April-2023
COSMETIC TECHNOLOGY
Democracy, Elections and Good Governance (CT204)

Day & Date: Wednesday, 19-07-2023
Time: 03:00 PM to 06:00 PM

Max. Marks: 50

- सूचना :** 1) सर्व प्रश्न अनिवार्य आहेत.
2) उजवीकडील अंक गुण दर्शवतात.

Answer

प्र.1 योग्य पर्याय निवडा.

1. — हे ई-गव्हर्नेन्सचे उदाहरण आहे.
अ) डिजिटल इंडिया
क) जनआरोग्य योजना
ब) अन्नसुरक्षा योजना
ड) यापैकी नाही
2. भारतात माहिती तंत्रज्ञान कायदा — साली संमत करण्यात आला.
अ) 2000
क) 2018
ब) 2010
ड) 2005
3. शासनाची विविध कार्ये पार पाडण्यासाठी इलेक्ट्रॉनिक साधनांचा वापर करून घेणे म्हणजे — होय.
अ) प्रशासन
क) सुशासन
ब) ई-शासन
ड) यापैकी नाही
4. — हे पद सामान्य भरतीचे उदाहरण आहे.
अ) न्यायाधीश
क) अभियंता
ब) कृषी अधिकारी
ड) जिल्हाधिकारी
5. प्रशासनातील — हा घटक वाढविण्यासाठी माहितीचा अधिकार संमत करण्यात आला.
अ) नियंत्रण
क) पारदर्शकता
ब) गुप्तता
ड) यापैकी नाही
6. लोकशाही शासन पध्दतीत सर्वोच्च सत्ता — कडे असते.
अ) समाज
क) राजा
ब) जनतेकडे
ड) प्रशासन
7. भारतात — लोकशाही पध्दती आहे.
अ) प्रत्यक्ष
क) संसदीय
ब) नियंत्रित
ड) अध्यक्षीय
8. सामुहिक जबाबदारीचे तत्व हे — चे वैशिष्ट्ये आहे.
अ) संसदीय शासनपध्दतीचे
क) हुकुमशाही
ब) अध्यक्षीय शासनपध्दतीचे
ड) यापैकी नाही

9. ——— भारताच्या मुख्य निवडणूक आयुक्ताची नेमणूक करतात.
 अ) राष्ट्रपती ब) पंतप्रधान
 क) लोकसभा ड) उपराष्ट्रपती
10. विकेंद्रीकरण हे ——— या व्यवस्थेचे वैशिष्ट्ये आहे.
 अ) एकात्मव्यवस्था ब) संघराज्यव्यवस्था
 क) हुकुमशाही व्यवस्था ड) यापैकी नाही
11. मतदारांची नाव नोंदणी करून घेण्याची जबाबदारी ———.
 अ) शासन ब) महानगरपालिका
 क) निवडणूक आयोग ड) व्यक्तिगत मतदार
12. ——— यांच्यामते लोकशाही म्हणजे लोकांचे, लोकांसाठी, लोकांनी चालविलेले शासन होय.
 अ) अब्राहम लिंकन ब) मिल
 क) लास्की ड) यापैकी नाही
13. महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार हमी कायदा हे ——— योजनेचे उदाहरण आहे.
 अ) निवडणूक ब) सामाजिक कल्याण
 क) राजकीय ड) हुकुमशाही
14. डॉ. आंबेडकर यांनी ——— लोकशाहीचा पुरस्कार केला.
 अ) आधुनिक ब) प्राचीन
 क) सामाजिक ड) प्रत्यक्ष
15. ——— ही तळपातळीवरील संसदेची छोटी प्रतिकृती आहे.
 अ) लोकसभा ब) राज्यसभा
 क) विधानसभा ड) ग्रामसभा
16. सुशासनासाठी ——— हे आवश्यक आहे.
 अ) लोकसहभाग ब) खाजगीकरण
 क) केंद्रीकरण ड) दंगा नियंत्रक पोलीस
17. 73 वी 74 वी घटनादुरुस्ती —सरकारशी संबंधित आहे.
 अ) केंद्र ब) राज्य
 क) स्थानिक ड) राष्ट्रीय
18. महाराष्ट्रातील स्थानिक स्वराज्य संस्थामध्ये महिलांसाठी किती जागा राखीव आहेत.
 अ) 75% ब) 25%
 क) 50% ड) 33%
19. सामाजिक लोकशाहीचे उद्दिष्ट ——— प्रोत्साहन देणे होय.
 अ) नोकरशाहीला ब) सुशिक्षितांना
 क) श्रीमंत लोकांना ड) सामाजिक न्यायाला
20. सार्वजनिक कल्याण आणि पुनर्वाटप तसेच सामाजिक असमानता कमी करण्याचे उद्देश असलेली पध्दत म्हणजेच ——— होय.
 अ) महाजनशाही ब) लोकशाही
 क) हुकुमशाही ड) तंत्रशाही

21. स्वातंत्र्य, समता, आणि बंधुता ही ---- लोकशाहीची मुख्य मूल्ये आहेत.
 अ) सामाजिक ब) ग्रीक
 क) जुन्या ड) परदेशी
22. राजकारणाचे गुन्हेगारीकरण हे भारतीय लोकशाहीपुढील मुख्य ---- आहे.
 अ) देणगी ब) आव्हान
 क) गरज ड) पात्रता
23. महाराष्ट्र विधानसभेत ---- सदस्य निवडून येतात.
 अ) 288 ब) 200
 क) 150 ड) 75
24. ---- हा सर्वात जुना पक्ष आहे.
 अ) बी. जे. पी ब) बी. एस. पी
 क) आय. एन. सी ड) आर. पी. आय
25. ---- हे भारतातील राजकीय पक्ष पध्दतीचे वैशिष्ट्य आहे.
 अ) एक पक्ष पध्दती ब) द्वी-पक्ष पध्दती
 क) बहु-पक्ष पध्दती ड) यापैकी नाही
26. निवडणुका ---- कडून जाहीर केले जातात.
 अ) राष्ट्रपती ब) निवडणूका आयोग
 क) पंतप्रधान ड) यापैकी नाही
27. लोकसभेत ---- सदस्य आहेत.
 अ) 543 ब) 555
 क) 510 ड) 500
28. लोकसभेचा कार्यकाल किती वर्ष असतो?
 अ) 5 वर्षे ब) 6 वर्षे
 क) 4 वर्षे ड) 2 वर्षे
29. भारतातील राज्यघटनेत किती मूलभूत अधिकारांचा समावेश करण्यात आला आहे.
 अ) दोन ब) सहा
 क) दहा ड) बारा
30. खालीलपैकी मसुदा समितीचे अध्यक्ष म्हणून ---- यांची निवड करण्यात आली होती.
 अ) पं. नेहरू ब) डॉ. राजेंद्र प्रसाद
 क) डॉ. बाबासाहेब आंबेडकर ड) यापैकी नाही
31. शिक्षणाचा अधिकार ---- घटनादुरुस्तीनुसार राज्यघटनेत समाविष्ट करण्यात आला.
 अ) 42 व्या ब) 44 व्या
 क) 85 व्या ड) 86 व्या
32. विज्ञान आणि तंत्रज्ञानाच्या साहाय्याने राज्यशासन चालविणे यास ---- असे म्हणतात.
 अ) ई-गव्हर्नेन्स ब) गुड-गव्हर्नेन्स
 क) खाजगीप्रशासन ड) यापैकी नाही

33. आदिवासी, रोजंदारीवरील कामगार, मच्छिमार, बांधकाम मजूर यांचा समावेश भारताच्या ——— समूहांमध्ये होतो.
 अ) सताधारी ब) वंचित
 क) पुढारलेल्या ड) यापैकी नाही
34. प्रातिनिधीक लोकशाहीत ——— प्रक्रिया शासन आणि जनतेला जोडते.
 अ) भ्रष्टाचार ब) हुकूमशाही
 क) अर्थशास्त्र ड) निवडणूक
35. खालीलपैकी कोणता अधिकार भारतीय राज्यघटनेमधील मूलभूत ——— अधिकार आहे.
 अ) संपत्तीचा अधिकार ब) शिक्षणाचा अधिकार
 क) क्रांती करण्याचा अधिकार ड) संप करण्याचा अधिकार
36. भारतीय मतदार ——— सदस्य प्रत्यक्षपणे निवडतात.
 अ) राज्यसभेचे ब) लोकसभेचे
 क) विधान परिषदेचे ड) यापैकी नाही
37. खेड्यातील ग्रामसभेमध्ये ——— समाविष्ट असतात.
 अ) सर्वनोंदणीकृत मतदार ब) सर्व लोक
 क) फक्त पुरुष मतदार ड) फक्त महिला मतदार
38. समाजातील सर्व सदस्यांचा ——— हे सुशासनाचे मूलभूत वैशिष्ट्ये आहे.
 अ) असमान सहभाग ब) समान सहभाग
 क) हिंस्त्र सहभाग ड) यापैकी नाही
39. लोकशाहीमध्ये विधिमंडळ, मंत्रिमंडळ, कार्यकारी मंडळ, आणि इतर समितीमधील प्रश्न सोडविण्यासाठी ——— हे तत्व वापरतात.
 अ) बहुमताचे नियम ब) अल्पमताचे नियम
 क) नेतृत्व ड) हुकूमशाही
40. खालीलपैकी कोणते लोकशाहीचे तत्व नाही.
 अ) सहमतीचे शासन ब) कायद्याचे राज्य
 क) सार्वजनिक उत्तरदायित्व ड) हुकूमशाही
41. महात्मा गांधी राष्ट्रीय ग्रामीण रोजगार योजना म्हणजे ——— कायद्यातील तरतुदींची अंमलबजावणी करण्यातील एक पाऊल आहे.
 अ) शिक्षण ब) स्वातंत्र्य
 क) रोजगार ड) माहितीचा अधिकार
42. शिक्षणाच्या अधिकाराद्वारे राज्यसंस्थेने ——— या वयोगटातील बालकांना शाळेत नाव नोंदविले आहे याची खात्री करून घेणे आवश्यक बनले आहे.
 अ) 6 ते 14 ब) 1 ते 5
 क) 15 ते 20 ड) यापैकी नाही
43. भारतातील स्थानिक स्वराज्य संस्थामधील एक तृतीयांश जागा ——— राखीव असतात.
 अ) महिलांसाठी ब) स्थलांतरित मजुरांसाठी
 क) बांधकाम मजुरांसाठी ड) मच्छिमारांसाठी

44. भारतातील शासन पध्दतीमध्ये ——— स्तर आहेत.
अ) चार
ब) तीन
क) दोन
ड) एक
45. अप्रत्यक्ष लोकशाहीला ——— लोकशाही असे म्हटले जाते.
अ) प्रातिनिधिक
ब) नकारात्मक
क) सकारात्मक
ड) यापैकी नाही
46. भारतातील राज्यघटनेत मूलभूत हक्कांचा समावेश ——— भागात करण्यात आला आहे.
अ) तिसऱ्या
ब) त्र्याहत्तराव्या
क) सारांश
ड) घटनादुरुस्ती
47. जर भारतात कोणी व्यक्ती किंवा राज्यसंस्थेचे मूलभूत हक्कांवर बंधने आणली तर नागरिकांना ——— दाद मागता येते.
अ) संसदेत
ब) सरकारकडे
क) ग्रामसभेत
ड) सर्वोच्च आणि उच्च न्यायालयात
48. ——— अधिकार हे पारदर्शकता आणि उत्तरदायित्वाचे उदाहरण आहे.
अ) माहितीचा
ब) संपत्तीचा
क) एकत्र येण्याचा
ड) धार्मिक
49. महाराष्ट्रातील ——— सदस्य प्रत्यक्ष लोकांकडून निवडले जातात.
अ) विधानसभा
ब) राज्यसभा
क) विधानपरिषद
ड) ग्रामसभा
50. भारतीय नागरिकांना माहितीच्या अधिकाराद्वारे ——— माहिती मागविता येते.
अ) खाजगी कंपन्यांकडून
ब) बहुराष्ट्रीय कंपन्यांकडून
क) सरकारी अधिकाऱ्यांकडून
ड) यापैकी नाही

Seat No.		Marks Obtained		Signature of Examiner		Signature of Junior Supervisor	
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M. Tech (Semester - II) (New) Examination: March/April-2023
COSMETIC TECHNOLOGY
Democracy, Elections and Good Governance (CT204)

Day & Date: Wednesday, 19-07-2023
 Time: 03:00 PM to 06:00 PM

Max. Marks: 50

- Instructions:** 1) All questions are compulsory.
 2) Figures to the right indicate full marks.

	Answer
Q.1 Choose the correct option and rewrite the sentence.	
1) _____ is an Example of E-Governance.	
a) Digital India b) Food security scheme c) Jan Aarogya Yojana d) None of these	<input type="checkbox"/>
2) The Information Technology Act of India-was passed in _____.	
a) 2000 b) 2010 c) 2018 d) 2005	<input type="checkbox"/>
3) Using electronic devices to carry out various functions of government means _____.	
a) Administration b) E-governance c) Good Governance d) None of these	<input type="checkbox"/>
4) _____ this post is an example of general recruitment.	
a) Judge b) Agriculture officer c) Engineer d) Collector	<input type="checkbox"/>
5) Right to Information was passed to increase the _____ factor in administration.	
a) control b) confidentiality c) transparency d) none of these	<input type="checkbox"/>
6) In democratic government the altimate powers rests with _____.	
a) Community b) People c) King d) Administration	<input type="checkbox"/>
7) There is _____ democratic system in India.	
a) Direct b) Controlled c) Parliamentary d) Presidential	<input type="checkbox"/>
8) Collective responsibility is feature of _____.	
a) Parliamentary form b) Presidential form c) Dictatorship d) None of these.	<input type="checkbox"/>
9) _____ appoints the chief Election commissioner of India.	
a) President b) Prime minister c) Lok sabha d) Vice- president	<input type="checkbox"/>
10) Decentralization is the feature of _____	
a) Unitary system b) Federal system c) Dictatorship d) None of these	<input type="checkbox"/>

- 24)** _____ is the oldest part of India.
- | | | |
|--------|--------|--------------------------|
| a) BJP | b) BSP | <input type="checkbox"/> |
| c) INC | d) RPI | |
- 25)** _____ is the feature of political party system in India.
- | | | |
|-----------------------|---------------------|--------------------------|
| a) One-party system | b) Two-party system | <input type="checkbox"/> |
| c) Multi-party system | d) None of these | |
- 26)** Election is declared by _____
- | | | |
|-------------------|------------------------|--------------------------|
| a) President | b) Election commission | <input type="checkbox"/> |
| c) Prime minister | d) None of these | |
- 27)** Lok Sabha has _____ members.
- | | | |
|--------|--------|--------------------------|
| a) 543 | b) 555 | <input type="checkbox"/> |
| c) 510 | d) 500 | |
- 28)** What is the working period of Lok Sabha?
- | | | |
|------------|------------|--------------------------|
| a) 5 years | b) 6 years | <input type="checkbox"/> |
| c) 4 years | d) 2 years | |
- 29)** How many fundamental rights are included in the Indian constitution?
- | | | |
|--------|-----------|--------------------------|
| a) Two | b) Six | <input type="checkbox"/> |
| c) Ten | d) Twelve | |
- 30)** Which one of the following acted as the president of the Darting committee?
- | | | |
|---------------------------|------------------------|--------------------------|
| a) Pandit Nehru | b) Dr. Rajendra prasad | <input type="checkbox"/> |
| c) Dr. Babasaheb Ambedkar | d) None of these | |
- 31)** Right to education were included in Indian _____ constitution by the Amendment.
- | | | |
|---------------------|---------------------|--------------------------|
| a) 42 nd | b) 44 th | <input type="checkbox"/> |
| c) 85 th | d) 86 th | |
- 32)** Running the government with the help of science and Technology is called.
- | | | |
|---------------------------|--------------------|--------------------------|
| a) E-governance | b) Good Governance | <input type="checkbox"/> |
| c) Private Administration | d) None of these | |
- 33)** Casual workers, fisher folks, construction, labourers are. Considered as _____ section in India.
- | | | |
|-------------|------------------|--------------------------|
| a) Ruling | b) Marginalized | <input type="checkbox"/> |
| c) Advanced | d) None of these | |
- 34)** In representative democracy the process of _____ links. The government and the people.
- | | | |
|---------------|-----------------|--------------------------|
| a) Corruption | b) Dictatorship | <input type="checkbox"/> |
| c) Economics | d) Election | |
- 35)** Which one of the following is the fundamental right in Indian constitution?
- | | | |
|----------------------|-----------------------|--------------------------|
| a) Right to property | b) Right to Education | <input type="checkbox"/> |
| c) Right to Revolt | d) Right to Strike | |
- 36)** Indian voters directly elect the members of _____.
- | | | |
|------------------|------------------|--------------------------|
| a) Rajya Sabha | b) Lok Sabha | <input type="checkbox"/> |
| c) Vidhana Sabha | d) None of these | |

- 37) Gram Sabha comprised of _____ in the village.
- | | | |
|------------------------------|-----------------------|--------------------------|
| a) All the registered voters | b) All the people | <input type="checkbox"/> |
| c) Only male voters | d) Only female voters | |
- 38) _____ by all the members of society is the basic feature of good governance.
- | | | |
|--------------------------|------------------------|--------------------------|
| a) Unequal participation | b) Equal participation | <input type="checkbox"/> |
| c) Violent participation | d) None of these | |
- 39) In democracy all issues in legislature cabinet executive and other committees are resolved the principle of _____
- | | | |
|------------------|------------------|--------------------------|
| a) Majority rule | b) Minority rule | <input type="checkbox"/> |
| c) Leadership | d) Dictatorship | |
- 40) Which among the following is not principle of democracy?
- | | | |
|--------------------------|-----------------|--------------------------|
| a) Government by consent | b) Rule of law | <input type="checkbox"/> |
| c) Public accountability | d) Dictatorship | |
- 41) Mahatma Gandhi National Rural Employment Guarantee. Act (MGNR EGA) is one step towards implementing the provision of _____
- | | | |
|-----------------------|-------------------------|--------------------------|
| a) Right to Education | b) Right to Liberty | <input type="checkbox"/> |
| c) Right to work | d) Right to Information | |
- 42) The Right to Education makes it Mandatory for the state to ensure that all children of the _____ age group enroll themselves in schools.
- | | | |
|-------------|------------------|--------------------------|
| a) 6 to 14 | b) 1 to 5 | <input type="checkbox"/> |
| c) 15 to 20 | d) None of these | |
- 43) In the local governments of India one of the seats are reserved for _____.
- | | | |
|-------------------------|---------------------|--------------------------|
| a) Women | b) Migrated workers | <input type="checkbox"/> |
| c) Construction workers | d) Fishers folks. | |
- 44) There are _____ tiers of Indian government.
- | | | |
|---------|----------|--------------------------|
| a) Four | b) Three | <input type="checkbox"/> |
| c) Two | d) One | |
- 45) Indirect Democracy is also called as _____ democracy.
- | | | |
|--------------------|------------------|--------------------------|
| a) Representative. | b) Negative | <input type="checkbox"/> |
| c) Positive | d) None of these | |
- 46) In India, fundamental Rights are enshrined in _____ of the constitution.
- | | | |
|-------------|--------------|--------------------------|
| a) Part-III | b) Part-73 | <input type="checkbox"/> |
| c) Summary | d) amendment | |
- 47) If the fundamental rights in India are abridged by any individual or the state any citizen can move the _____
- | | |
|-------------------------------|--------------------------|
| a) Parliament | <input type="checkbox"/> |
| b) government | |
| c) Gram Sabha | |
| d) Supreme courts High courts | |
- 48) The Right to _____ is the example of transparency and accountability.
- | | | |
|----------------|-------------|--------------------------|
| a) Information | b) Property | <input type="checkbox"/> |
| c) Assembly | d) Religion | |

49) The members of Maharashtra _____ are directly elected by the people.

- a) Vidhan Sabha
- c) Vidhan Parishad

- b) Rajya Sabha
- d) Gram Sabha

50) Indian can seek information from under the Right to _____ Information Act

- a) Private companies
- c) Government officials

- b) Multinational companies
- d) None of these.

Seat No.	
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Five Year Integrated (M. Tech.) (Sem- II) (New) (CBCS) Examination:
March/April-2023

COSMETIC TECHNOLOGY
Analytical Chemistry (CT208)

Day & Date: Thursday, 20-07-2023
 Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) Question 1 and 2 are compulsory.
 2) Attempt any Three from Q.3 to Q.7.
 3) Figure to right indicate full marks.

Q.1 A) Choose the correct alternatives from the given options. **10**

- 1) The cell constant of a conductivity cell _____.
 - a) Changes with a change of concentration of electrolyte
 - b) Remains constant for a cell
 - c) Changes with a change of electrolyte
 - d) Changes with change in temperature
- 2) During electrolysis of NaCl, the gas discharged at the anode is _____.
 - a) Chlorine
 - b) Hydrogen
 - c) Oxygen
 - d) None of the above
- 3) The calomel electrode is reversible with respect to _____.
 - a) Mercury
 - b) H⁺
 - c) Hg₂⁺
 - d) Cl⁻
- 4) Photoelectric effect was explained by _____.
 - a) Einstein
 - b) Faraday
 - c) Plank
 - d) Hertz
- 5) The minimum energy required to remove an electron is called _____.
 - a) Stopping potential
 - b) Kinetic energy
 - c) Work function
 - d) None of these
- 6) Ammonium sulphate salt is _____.
 - a) basic salt
 - b) acidic salt
 - c) neutral salt
 - d) complex salt
- 7) p^H of human blood is _____.
 - a) 9
 - b) 14
 - c) 7.4
 - d) 4.5
- 8) Beer Lambert's law gives the relation between which of the following?
 - a) Reflected radiation and concentration
 - b) Scattered radiation and concentration
 - c) Energy absorption and concentration
 - d) Energy absorption and reflected radiation
- 9) Which of the following is not an application of colorimeter?
 - a) Paints
 - b) Inks
 - c) Cosmetics
 - d) Composition detection
- 10) Sodium chloride is a _____.
 - a) Strong electrolyte
 - b) Weak electrolyte
 - c) Non-electrolyte
 - d) None of these

B) Fill in the blanks. 06

- 1) During electrolysis, positive ions move towards the _____.
- 2) Beer-Lamberts law derivation helps us define the relationship between the intensity of uv-visible radiation and _____.
- 3) Negative logarithm of hydrogen ion concentration is called as _____.
- 4) A _____ measures the voltage generated by the solution and displays it as a pH measurement.
- 5) _____ has constant pH values and the ability to resist changes in pH.
- 6) _____ reaction takes place at the cathode.

Q.2 Answer the following. 16

- a) Write down the various uses of buffer solutions.
- b) Explain Beer's-Lamberts law.
- c) Explain Daniell cell.
- d) Write down the various advantages and disadvantages of colorimetry.

Q.3 Answer the following. 08

- a) Explain the electrochemical cell. 08
- b) Explain the derivation of Beers-Lamberts law. 08

Q.4 Answer the following. 08

- a) Explain the complete cell used for p^H measurement with neat labelled diagram. 08
- b) Explain the types of potentiometric titration. 08

Q.5 Answer the following. 08

- a) Explain the type of buffer solutions and its mechanism of buffering action in details. 08
- b) Write down the various applications of colorimetry. 08

Q.6 Answer the following. 08

- a) What is mean by electrolysis? Explain the concept of electrolysis in detail. 08
- b) Explain the combination of p^H electrode in detail with neat labelled diagram. 08

Q.7 Answer the following. 08

- a) Explain the instrumentation of colorimetry with neat labelled diagram. 08
- b) Explain calomel electrode and its redox reaction in details. 08

Seat No.	
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**Five Year Integrated (M. Tech.) (Semester - II) (Old) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Fundamental Chemistry - II (CT01209)

Day & Date: Tuesday, 18-07-2023
Time: 03:00 PM To 05:00 PM

Max. Marks: 40

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.

Q.1 Choose the correct answer.

08

- 1) The compound in which carbon is covalently bonded with hydrogen and carbon is called as _____.
 - a) Halocarbon
 - b) Hydrocarbon
 - c) Halo hydrocarbon
 - d) All of these
- 2) Halogenated compounds with carbon-carbon single bond is called _____.
 - a) Haloalkanes
 - b) Haloalkynes
 - c) Halogens
 - d) Halo alkenes
- 3) The temperature at which one crystalline form changes to another is known as _____.
 - a) transition point
 - b) eutectic point
 - c) cryohydric point
 - d) none of these
- 4) The equation, $F=C-P+2$, represents _____.
 - a) phase rule equation
 - b) Gibbs phase rule
 - c) both (a) and (b)
 - d) none of these
- 5) The hydroxy substituted benzene is called as _____.
 - a) Phenol
 - b) Carbinols
 - c) Enols
 - d) none of these
- 6) In saturated alcohols the hydroxy group is covalently bound to _____ hybridised carbon.
 - a) sp
 - b) sp^3
 - c) sp^2
 - d) any of these
- 7) The reaction of glycerol with _____ hints that it has acidic character.
 - a) HCl
 - b) $KHSO_4$
 - c) Na
 - d) NaOH
- 8) Geometrical isomerism is shown only by compounds containing _____ center.
 - a) Chiral
 - b) Achiral
 - c) Olefinic
 - d) all these

- Q.2 Answer any four of the following. (Any Four) 08**
- 1) Write short note on classification of hydrocarbons.
 - 2) Explain dipole moment present in liquid molecules.
 - 3) Explain the following terms
 - a) Phase
 - b) Component
 - 4) Write down the definition of
 - a) Newtonian liquid
 - b) Non-Newtonian liquid
 - 5) Write down the uses of glycerol.
 - 6) Explain the nomenclature of aldehyde.
 - a) Common system
 - b) IUPAC system
- Q.3 Write short note on any two of the following. (Any Two) 08**
- a) Conformation of ethane.
 - b) Aldol condensation
 - c) Perkin reaction
- Q.4 Answer any two of the following. (Any two) 08**
- a) Write down the various methods of preparation of alkanes.
 - b) Explain surface tension with neat labelled diagram.
 - c) Explain intermolecular force and its impact on state of matter in liquid.
- Q.5 Answer any one of the following. (Any One) 08**
- a) Explain one component water system in detail.
 - b) Explain structure and reactivity of carbonyl group.

Seat
No.

**Five Year Integrated (M. Tech.) (Semester - II) (Old) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Natural Cosmetic Agents-II (CT01204)

Day & Date: Wednesday, 19-07-2023

Max. Marks: 40

Time: 03:00 PM To 06:00 PM

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple Choice Question.**08**

- 1) This is an adulterant _____.
 - a) Pesticides
 - b) Urea
 - c) Iron filings in tea
 - d) All of the above
- 2) The full form of PFA is _____.
 - a) Prevention of Food Act
 - b) Protection of Food Act
 - c) Prevention of Food Adulteration Act
 - d) None of the above is correct
- 3) Example of _____ is Coniferous resin.
 - a) Colophony
 - b) Guaicum
 - c) Podophyllum
 - d) all the above
- 4) Resins are a mixture of _____ mainly composed of terpenes.
 - a) Inorganic compound
 - b) Organic compounds
 - c) Water solubale compound
 - d) None of the above
- 5) *Myroxylon balsamum* is belongs to _____ family.
 - a) Ranunculaceae
 - b) Asterraceae
 - c) Leguminosae
 - d) Moraceae
- 6) _____ has been traditionally used for sepration of componants of volatile oils.
 - a) Fractional distillation
 - b) Functional distillation
 - c) Phenolic distillation
 - d) Medicinal distillation
- 7) _____ are complex chemical substances derived from phenolic acids.
 - a) Balsam
 - b) Tannins
 - c) Calamine
 - d) Mica
- 8) Acacia catechu wild and Acacia chundra wild belongs to family _____.
 - a) Leguminosae
 - b) Malvaceae
 - c) Poaeceae
 - d) All of the above

Q.2 Answer any four of the following:**08**

- 1) What do you mean by Adulteration?
- 2) What is Resin and Balsam?
- 3) What is Tannins?
- 4) What is Stomata?
- 5) What are the examples of Adulterations?
- 6) What are the pharmaceutical uses of Resins?

- Q.3 Write short notes on any two of the following.** **08**
- a) Explain the factors creating adulteration.
 - b) Give the difference between *Resin & Gums*.
 - c) Write a note on Tannins & its structure.
- Q.4 Answer any Two of the following:** **08**
- a) Explain the Fuller's earth & its uses.
 - b) Describe the Classification of Resins.
 - c) Write a note on *Tolu Balsam*.
- Q.5 Answer any one of the following:** **08**
- a) Describe the chemical constituents, chemical test & uses of *Black catechu*.
 - b) Describe the Microscopic evaluation Stomata & draw the neat labelled structure of Stomata.

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Five Year Integrated M. Tech. Course (Semester - III) (CBCS)
Examination: March/April-2023
(COSMETIC TECHNOLOGY)
Cosmetic Technology - I (CT1301)

Day & Date: Monday, 10-07-2023
 Time: 11:00 AM To 01:00 PM

Max. Marks: 40

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Draw neat labelled diagram wherever necessary.
 - 4) Use of calculator & log table is allowed.

Q.1 Multiple Choice Question.

08

- 1) Every dosage form is a combination of drug & different kinds of non-drug components called as _____.
 - a) New Chemical Entity
 - b) Additives
 - c) Non-additives
 - d) Prodrug
- 2) Which statement best describes supersaturated solution?
 - a) Solution which has equal amounts of solute & solvent.
 - b) Which could possibly dissolve more solute.
 - c) Contain more solute than is normally possible.
 - d) Which has dissolved the maximum amount of solute.
- 3) Abbe's refractometer do not consist of: _____.
 - a) Telescope
 - b) Graduated scale
 - c) Eyepeice
 - d) Refracting prism
- 4) Douches are meant for application in _____.
 - a) Buccal cavity
 - b) Rectal cavity
 - c) Vaginal cavity
 - d) Nasal cavity
- 5) Cetrimide & macrogols are examples of _____.
 - a) Sweeteners
 - b) Colorants
 - c) Emulsifier
 - d) none of the above
- 6) HLB value of 7-9 indicates _____.
 - a) w/o emulsifying agents
 - b) o/w emulsifying agents
 - c) Solubilizing agents
 - d) wetting & spreading agents
- 7) Which of the following packaging material is used to protect the contents against the light?
 - a) plastic containers
 - b) Amber coloured glass containers
 - c) steel containers
 - d) paper packaging
- 8) Which of the following is used as vulcanizing agent in the manufacture of rubber closure?
 - a) Sulpher
 - b) Activated carbon black
 - c) Talc
 - d) Stearic acid

- Q.2 Answer the following. (Any Four) 08**
- a) What is partition coefficient?
 - b) Define syrup and enlist its types.
 - c) Define dispersion medium and give its importance.
 - d) Write a short note on rubber as packaging materials.
 - e) What is meant by Critical micelle concentration?
 - f) Define dipole moment. Write their formula.
- Q.3 Write short notes. (Any Two) 08**
- a) Monophasic liquid dosage form
 - b) Glass as a packaging material
 - c) Refractive index
- Q.4 Answer the following. (Any Two) 08**
- a) Discuss about labelling requirements of cosmetics.
 - b) Write a note on liquids instilled into body cavities.
 - c) Give a brief note on optical activity of compounds with their applications.
- Q.5 Answer the following. (Any One) 08**
- a) Discuss in detail applications of surface-active agents in cosmetics.
 - b) Write in detail about techniques of enhancing solubility.

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**Five Year Integrated M. Tech. (Sem-III) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Instrumental methods of Analysis - I (CT1302)

Day & Date: Tuesday, 11-07-2023

Max. Marks: 40

Time: 11:00 AM To 01:00 PM

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options.

08

- 1) _____ defines narrow beam of radiation from sources.
 - a) Entrance slit
 - b) Collimating lense
 - c) Focusing lense
 - d) Exit slit

- 2) _____ is the principle of TLC.
 - a) Partition
 - b) Ionizations
 - c) Destructions
 - d) None of none

- 3) _____ compounds are hold bystationary phase of TLC.
 - a) Polar compound
 - b) Non-polar compound
 - c) Polar and Non-polar compound
 - d) None of these

- 4) _____ lamp has the advantages of producing continuous radiation with high intensity.
 - a) Tungsten lamp
 - b) Deuterium lamp
 - c) Hydrogen lamp
 - d) All of these

- 5) _____ In column chromatography, how many phases are present?
 - a) One
 - b) Two
 - c) three
 - d) All of these

- 6) Measurement of _____ of light is called as photometry.
 - a) Intensity
 - b) velocity
 - c) Both a & b
 - d) None of these

- 7) A beam having radiation of several wavelengths is called _____.
 - a) Monochromatic
 - b) Polychromatic
 - c) Both a & b
 - d) None of these

- 8) _____ Technique is used to separate components from complex mixture.
 - a) Potionometry
 - b) Colorimetriy
 - c) Chromatography
 - d) None of these

- Q.2 Attempt any four of the following questions. 08**
- 1) Explain stationary phase.
 - 2) Explain disadvantages of flame photometry.
 - 3) Write down the principle of column chromatography.
 - 4) Explain translational energy.
 - 5) Explain radio wave region and microwave regions.
 - 6) Write down the various uses of paper chromatography.
- Q.3 Write Notes. (Any Two) 08**
- 1) Write a short note on column chromatography.
 - 2) Explain in detail various parts of flame photometer.
 - 3) Explain various electromagnetic properties of Spectroscopy.
- Q.4 Attempt any two of the following questions. 08**
- 1) Write down the various advantages and disadvantages of flame photometry.
 - 2) Explain Beers -Lamberts law in details.
 - 3) Explain atomic and molecular spectroscopy in details.
- Q.5 Attempt any one of the following questions. 08**
- 1) Explain UV visible spectroscopy in detail with neat labelled diagram.
 - 2) Explain paper chromatography and thin layer chromatography in detail.

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Five Year Integrated M. Tech. (Sem-III) (CBCS) Examination:**March/April-2023****COSMETIC TECHNOLOGY**
Cosmetic Engineering - I (CT1303)Day & Date: Wednesday, 12-07-2023
Time: 11:00 AM To 01:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple choice questions.**08**

- 1) A Pitot tube is bent at _____.
a) 90°
b) 180°
c) 30°
d) None of these
- 2) Wrought iron is _____.
a) Tough
b) Malleable
c) Ductile
d) All of the above
- 3) When the value of the Reynolds is less than 2100, the flow is _____.
a) Turbulent
b) Viscous
c) Unsteady
d) Both a and c
- 4) In which type of conveyor, fans or cycloid blower is connected _____.
a) Apron
b) Bucket
c) Belt
d) Pneumatic
- 5) Fluid mechanics includes _____.
a) Fluid statics
b) Fluid dynamics
c) Both a and b
d) None of these
- 6) How many pipes are used in cross screwed fitting?
a) 2
b) 3
c) 6
d) 4
- 7) A manometer is used to measure _____.
a) Velocity
b) Viscosity
c) Pressure
d) Density
- 8) Name the conveyor system used for transporting unpleasant and injurious toxic materials _____.
a) Belt
b) Bucket
c) Screw
d) Pneumatic

Q.2 Answer any four of the following:**08**

- 1) Define the terms fluid statics and fluid dynamics.
- 2) What is direct weighing or measuring method for measurement of fluid flow and enlist devices used in hydrodynamic methods.

- 3) Enlist the basic elements of belt conveyor and what are the requirements for selection of belt conveyor.
- 4) What is a valve? Enlist the valve used in industry.
- 5) Define cosmetic engineering and write down its applications in industry.
- 6) Explain loss of energy in fittings.

Q.3 Write short notes on any two of the following. 08

- a) Rotameter
- b) Meters used to measure the domestic water supply
- c) Screw conveyor

Q.4 Answer any Two of the following: 08

- a) Describe the principle of working of Displacement meter.
- b) Explain about venturi meter.
- c) Describe construction and working principle of inclined manometer.

Q.5 Answer any one of the following: 08

- a) Explain in detail about Orifice meter.
- b) Explain the concept of head. Justify the pressure head term, comment on friction loss.

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**Five Year Integrated M. Tech. (Sem-III) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Cosmetic Technology III (CT1304)**

Day & Date: Thursday, 13-07-2023
Time: 11:00 AM To 01:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Use of logarithmic tables and calculator is allowed.
4) Draw neat diagram and give equations wherever necessary.

Q.1 Multiple choice questions.**08**

- 1) _____ enzyme is used as antioxidant in cosmetics.
 - a) Peroxide
 - b) Transferase
 - c) Superoxide Dismutase
 - d) Hydrolyze
- 2) An enzyme without co-enzyme is called as _____.
 - a) Apoenzyme
 - b) Halo enzyme
 - c) Cofactor
 - d) Protein
- 3) The colloidal protein solution shows the scattering of light, this effect is known as _____.
 - a) Tyndale effect
 - b) Ostwald's effect
 - c) Brownian motion
 - d) All of the above
- 4) _____ is the example of prosthetic group.
 - a) Vitamin
 - b) RBCs
 - c) WBCs
 - d) Plasma
- 5) Silicones show the resistance to _____.
 - a) Ozone
 - b) UV-light
 - c) Water
 - d) All of the above
- 6) The metallic soaps are _____ in water but _____ in benzene.
 - a) Insoluble, Soluble
 - b) Soluble, Insoluble
 - c) Soluble, Soluble
 - d) Insoluble, Insoluble
- 7) The synthetic silicates contain _____ as main metal.
 - a) Magnesium
 - b) Calcium
 - c) Aluminium
 - d) Cobalt
- 8) The silk powder is prepared from _____.
 - a) Alignin
 - b) Fibroin
 - c) Lysine
 - d) Lignin

Q.2 Answer any four of the following.**08**

- a) Write any two properties of clay mineral.
- b) Define silicates and draw its structure.
- c) Define prosthetic group.
- d) What is mean by active site of enzyme?
- e) Define conjugated proteins.
- f) Define essential amino acids with examples.

- Q.3 Write short notes on any Two of the following. 08**
- a) Explain in detail the synthetic surfactant with its structure.
 - b) Write a note on silk powder.
 - c) Write a note on metallic soap with its application.
- Q.4 Answer the any two of the following. 08**
- a) Explain the toxicity of silicone.
 - b) Explain in detail the classification of enzyme.
 - c) Write a note on use of protein in cosmetics.
- Q.5 Answer any one of the following. 08**
- a) Write in detail the classification of protein based on shape, constitution and nature of molecule.
 - b) Explain in detail the key lock model of enzyme action with application of enzyme in cosmetics.

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**Five Year Integrated M. Tech. (Sem-III) (CBCS) Examination:
March/April-2023
COSMETIC TECHNOLOGY
Drugs & Cosmetics Laws – I (CT1308)**

Day & Date: Friday, 14-07-2023
Time: 11:00 AM To 01:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
2) Draw neat diagrams and give equations wherever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple choice questions.**08**

- 1) How many members constitute Ex-officio of DTAB?
 - a) 5
 - b) 6
 - c) 7
 - d) 8
- 2) u/s _____ a person is appointed as Drug Inspector by the Central Govt, or State Govt, in relation to Ayurveda, Siddha & Unani.
 - a) 33
 - b) 33 G
 - c) 21
 - d) 21 G
- 3) The preparations which are not capable of being misused are called as _____.
 - a) Alcoholic preparations
 - b) Restricted preparations
 - c) Unrestricted preparations
 - d) Spirit preparations
- 4) The process of introducing air in the abdomen of milch animal to draw milk out forcefully is called as _____.
 - a) Foola
 - b) Doom dev
 - c) Kafir
 - d) Dev D
- 5) The requirement of factory premises, plant equipment, manufacturing of cosmetics is governed by schedule _____.
 - a) M
 - b) M I
 - c) M III
 - d) M II
- 6) The building premises for manufacturing drugs and cosmetics shall conform to the conditions laid down by _____.
 - a) Factories Act, 1947
 - b) Factories Act, 1948
 - c) Factories Act, 1949
 - d) Factories Act, 1941
- 7) How much space in square meters is required for the manufacturing of _____ cake make-up cosmetic?
 - a) 10
 - b) 20
 - c) 25
 - d) 15
- 8) Manufacture of any cosmetic in contravention to Drugs & Cosmetics Law is punishable with imprisonment upto _____ With fine _____ on first conviction.
 - a) 1 year, 5000
 - b) 1 year, 3500
 - c) 1 year, 1000
 - d) 1 year, 2000

- Q.2 Answer any four.** **08**
- 1) Give the objective for P.C.A., 1960.
 - 2) Define Drug and Drug Inspector.
 - 3) Define Bonded manufactory.
 - 4) What does schedule Q define? Give examples of schedule Q.
 - 5) Define & classify medicinal & toilet preparations.
 - 6) What is the function of DTAB?
- Q.3 Write notes on any two of the following.** **08**
- a) Duties of Drug Inspector.
 - b) Constitution & composition of Animal Welfare Board.
 - c) What is the procedure to obtain license to manufacture medicinal & alcoholic preparations?
- Q.4 Answer any two of the following.** **08**
- a) Discuss the offences and penalties of Drugs & Cosmetics Act, 1940.
 - b) Discuss Schedule MII in relation to the manufacture of cosmetics.
 - c) What are the requirements to manufacture nail polishes and lotions.
- Q.5 Answer any one of the following.** **08**
- a) What is CPCSEA board? Write its' objectives & functions. What are the guidelines of CPCSEA board?
 - b) Which classes of cosmetics are prohibited from import? What is the procedure of movement of dutiable goods from bonded warehouse to another bonded warehouse?

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Five Year Integrated M. Tech. Course (Semester - IV) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Cosmetic Technology II (CT1401)

Day & Date: Monday, 10-07-2023
 Time: 03:00 PM To 06:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
 2) Answer to all questions are to be written in one answer book only.
 3) All questions carry equal marks.
 4) Figures to the right indicate full marks.
 5) Draw neat labelled diagram wherever necessary.
 6) Use of calculator & log table is allowed.

Q.1 Multiple Choice Question.

08

- 1) Stearic acid is core component of _____ cream.
 - a) Vanishing
 - b) Foundation
 - c) Cleansing
 - d) All of these
- 2) Cetyl alcohol is example of _____ surfactant.
 - a) Anionic
 - b) Cationic
 - c) Non ionic
 - d) Amphoteric
- 3) In dilution test if flow of current occurs then it is _____ emulsion.
 - a) W/O
 - b) O/W
 - c) Multiple
 - d) None of these
- 4) _____ suspensions are not elegant.
 - a) Flocculated
 - b) Deflocculated
 - c) Both a & b
 - d) None of these
- 5) Paste contains _____ finely powdered solids.
 - a) 5%
 - b) 50%
 - c) 20%
 - d) 1%
- 6) _____ containers are used for cream.
 - a) Glass bottle
 - b) Wide mouth bottle
 - c) Narrow mouth bottle
 - d) None of these
- 7) Powder for dry skin contain _____.
 - a) More talc
 - b) More zinc oxide
 - c) More titanium dioxide
 - d) Both a and c
- 8) Trituration method is used, when ointment base is _____ and medicament is _____ in the base.
 - a) Hard, Insoluble
 - b) Soft, Soluble
 - c) Soft, Insoluble
 - d) Hard, Soluble

Q.2 Answer the following. (Any Four)

08

- a) Give the short note on ideal requirement of preservatives used in cosmetics.
- b) Distinguish between emulsion and suspension.
- c) Define semisolid dosage form and classify them.

- d) Add a note on structured vehicle in suspension.
- e) Explain need of penetration enhancer in semisolids.
- f) Define talcum powder and Classify it.

Q.3 Write short notes. (Any Two) 08

- a) Formulation of powder
- b) Efficacy determination of preservatives
- c) Stability problems of emulsion

Q.4 Answer the following. (Any Two) 08

- a) Classify emulsion and discuss manufacturing of cosmetic emulsion.
- b) Define powder, classify them and elaborate face powder.
- c) Briefly explain controlled flocculation of suspension

Q.5 Answer the following. (Any One) 08

- a) What are suspension and explain controlled flocculation. Discuss in detail the evaluation of suspension.
- b) Define ointment. Classify them and discuss in detail ointment bases.

Seat No.	
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**Five Year Integrated M. Tech. (Semester- IV) (New) (CBCS) Examination:
Oct/Nov-2022**

COSMETIC TECHNOLOGY

Instrumental Methods of Analysis-II (CT1402)

Day & Date: Tuesday, 11-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 40

Instructions: 1) All questions are compulsory.
2) Figures to right indicate full marks.

Q.1 Multiple Choice Question.

08

- 1) The elastic scattering of photons is called as _____
 - a) atmospheric scattering
 - b) Rayleigh scattering
 - c) conserved scattering
 - d) Raman scattering
- 2) What does a polarimeter measure _____
 - a) Polarity of substance
 - b) Angle of rotation
 - c) concentration of the substance
 - d) pH of the substance
- 3) Which of the following is the simplest pH meter _____
 - a) Null detector type pH meter
 - b) Direct reading type pH meter
 - c) Digital pH meter
 - d) Modem pH meter
- 4) Pure water is known to be which of the following _____
 - a) weak electrolyte
 - b) strong electrolyte
 - c) Neither weak nor strong electrolyte
 - d) None of these
- 5) A pH scale reading of 13 indicates a _____

a) weak base	b) weak acid
c) strong acid	d) strong base
- 6) In conductometry sheet _____ is used

a) platinum	b) Gold
c) silver	d) None of the above
- 7) Greater the value of refractive index of a medium the bending of light will be

a) Greater	b) smaller
c) Zero	d) Negative
- 8) In Raman spectroscopy the radiation lies in the _____

a) microwave region	b) visible region
c) UV region	d) X-ray region

- Q.2 Answer any four of the following. (Any four) 08**
- a) Explain the principle of the pH meter.
 - b) What is meant by plane-polarized light.
 - c) Explain perfectly elastic collision.
 - d) Explain specific rotation in details.
 - e) Write down the principle of refractometry.
 - f) What is meant by conductance?
- Q.3 Write a note on any two of the following. (Any Two) 08**
- a) Construction and working of glass electrodes
 - b) Write a note on the importance of the refractive index.
 - c) Write a note on the Quantum principle
- Q.4 Answer any two of the following. (Any Two) 08**
- a) Write down the various applications of pH meter.
 - b) Write down the advantages and disadvantages of glass electrode.
 - c) Explain the laws of refraction.
- Q.5 Answer any one of the following. 08**
- a) Explain various types of conductometric titration curves in detail with suitable examples.
 - b) Explain the construction, working, and application of the pH meter.

Seat No.	
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**Five Year Integrated M. Tech. (Semester- IV) (New) (CBCS) Examination:
Oct/Nov-2022**

**COSMETIC TECHNOLOGY
Cosmetic Engineering - II (CT1403)**

Day & Date: Wednesday, 12-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 40

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions.**08**

- 1) Normally, oily or greasy surfaces tend to induce _____.
 a) Drop wise condensation b) Film type Condensation
 c) Both a and b d) None of above
- 2) When Hot and cold fluid enters in the heat exchanger from same side, this type of arrangement is known as _____.
 a) Parallel flow b) Dynamic Flow
 c) Counter current flow d) Perpendicular flow
- 3) Some heat exchangers have blades, that do not actually touch the surface over which they pass, but move in close proximity to it. Such designs may be termed as _____.
 a) Finned Tube heat exchangers
 b) "Wiped surface" heat exchangers
 c) Direct contact heat exchangers
 d) None of above
- 4) In an Air conditioning system, rate of flow of refrigerant is controlled by _____.
 a) Displacement valve b) Ball check valve
 c) Expansion valve d) All the above
- 5) In psychrometric chart, specific humidity lines are _____.
 a) Horizontal lines b) Vertical lines
 c) Lines slopping toward left d) Curved lines
- 6) The expression $Q = \rho AT^4$ is known as _____.
 a) Fourier equation b) Stefan-Boltzmann equation
 c) Newton Reichmann equation d) Joseph-Stefan equation
- 7) Usually differential balance applied to _____.
 a) Steady state process b) Batch process
 c) Continuous process d) None of the above
- 8) For steady state, the accumulation is 0 (zero), then general balance equation can be _____.
 a) Input + generation = Output + Consumption
 b) Input - Output = Consumption
 c) Input - Accumulation = Output
 d) None of above

- Q.2 Answer any four of the following. 08**
- 1) What do you mean by Parallel heat flow?
 - 2) Write down fundamental concept of radiation.
 - 3) Define Water vapour pressure and Dew point.
 - 4) If air consists of 77% by weight of nitrogen and 23% by weight of oxygen calculate:
 - a) The mean molecular weight of air
 - b) The mole fraction of oxygen(Given values: Molecular Weight: C-12, H-1, O-16, N-14, Cl-35.5, Na-23)
 - 5) Write down types of refrigerants with example.
 - 6) What is Humidity ratio and specific volume?
- Q.3 Write short notes on any two of the following. 08**
- a) What is material balance? Comment on Batch process and Continuous process.
 - b) Explain counter current heat flow with neat labelled diagram.
 - c) Describe liquid to Liquid Interchanger.
- Q.4 Answer any Two of the following. 08**
- a) Explain Split Air-Conditioning System.
 - b) Explain Black body and Grey Body.
 - c) What are indirect contact type heat exchangers? Write down its subtypes and Elaborate Fluidised bed type heat exchangers.
- Q.5 Answer any one of the following. 08**
- a) What do you mean by refrigeration and refrigerants? Explain principle of refrigeration. Comment on refrigeration cycle.
 - b) What do you mean by Integral and differential balance? Define dimensional equation; write a note on dimensional analysis. What is shaft work and flow work?

Seat No.	
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**Five Year Integrated M. Tech. (Sem-IV) (New) (CBCS) Examination:
March/April-2023
COSMETIC TECHNOLOGY
Cosmetic Chemistry IV (CT1404)**

Day & Date: Thursday, 13-07-2023
Time: 03:00 PM To 05:00 PM

Max. Marks: 40

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions.

08

- 1) Lipids are _____ in water.
 - a) Soluble
 - b) Partially soluble
 - c) Insoluble
 - d) All of the above
- 2) In Humectants _____ group is responsible to attract the water.
 - a) -COOH
 - b) -NH₂
 - c) -OH
 - d) -CHO
- 3) _____ as viscosity modifiers in cosmetic preparation protect skin from dirt & grease.
 - a) Solvent
 - b) Alcohol
 - c) Electrolyte
 - d) Natural
- 4) Humectants form _____ bond with water.
 - a) Ionic
 - b) Hydrogen
 - c) Vander Waal's
 - d) Covalent
- 5) Lipid molecule contains _____ head.
 - a) Hydrophilic
 - b) Hydrophobic
 - c) Lipophilic
 - d) Electrophilic
- 6) In metabolic role, vitamin K initially activates to _____.
 - a) Thrombin
 - b) Prothrombin
 - c) Glutamate
 - d) Phospholipid
- 7) The ideal natural pearls has perfectly _____ shape.
 - a) Round
 - b) Elongated
 - c) Thread
 - d) Oval
- 8) Pearl essence is an _____ object.
 - a) Translucent
 - b) Transparent
 - c) Opaque
 - d) None of above

Q.2 Answer any four of the following:

08

- 1) Define freshwater pearl.
- 2) Mention the names of synthetic pearly substances.
- 3) What is mean by metabolism? And write down the number of essential vitamins.
- 4) Write any four uses of vitamins in cosmetics.
- 5) What is Polyols?
- 6) Define unusual humectant with example.

- Q.3 Write short notes on any TWO of the following. 08**
- a) Write down the metabolic role of Vitamin E.
 - b) Write a note on classification of Lipids.
 - c) Explain the advantages of Natural Gums as viscosity modifier.
- Q.4 Answer any Two of the following: 08**
- a) Write a note on essential fatty acids with example.
 - b) Explain in detail the recent amendments for water as per IP, BP & USP.
 - c) Describe the uses of waxes in cosmetic preparation.
- Q.5 Answer any one of the following: 08**
- a) Write down the various steps involved in the production of Fatty Acids.
 - b) Explain in detail the properties of fatty acids and its uses in cosmetic.

Seat No.	
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**Five Year Integrated M. Tech. (Sem-IV) (New) (CBCS) Examination:
March/April-2023
COSMETIC TECHNOLOGY
Environmental Studies (CT1405)**

Day & Date: Friday, 14-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 40

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the Correct Alternative.

08

- 1) The word 'Environment' is derived from _____ language.
 - a) French
 - b) Roman
 - c) Latin
 - d) Greek
- 2) Conflict of _____ was done in Uttar Pradesh.
 - a) Tehari Dam
 - b) Chipko movement
 - c) Ocean protection
 - d) Air pollution
- 3) _____ is not considered as renewable energy resource.
 - a) Solar Energy
 - b) Hydroelectric energy
 - c) Oceanic energy
 - d) Petroleum
- 4) Sahara is a example of _____ ecosystem.
 - a) Forest
 - b) Marine
 - c) Desert
 - d) Grassland
- 5) The term environment means _____.
 - a) Area
 - b) Land
 - c) Surrounding Area
 - d) Region
- 6) The term "Ecosystem" was first introduced by _____.
 - a) R. Carson
 - b) Aurthur Tansley
 - c) E. P. Odum
 - d) A. Charls
- 7) In India Forest Conservation Act was passed in year _____.
 - a) 1980
 - b) 1982
 - c) 1984
 - d) 1986
- 8) Conservation of biodiversity in their natural habitat is called _____.
 - a) Ex-situ conservation
 - b) In-situ conservation
 - c) Protection
 - d) Conservation

Q.2 Write Short Answers. (Any Four)

08

- 1) Definition of Environmental Studies.
- 2) Marine Ecosystem.
- 3) Causes of Deforestation
- 4) Conservation of Biodiversity.
- 5) Definition of Air Pollution.
- 6) Water Pollution (Prevention and Control) Act

- Q.3 Write Short Notes. (Any Two) 08**
- a) Scope of Environmental Studies.
 - b) Chipko Movement.
 - c) Effects of Water Pollution.
- Q.4 Broad Answers Question. (Any Two) 08**
- a) Explain the India as a Mega biodiversity Region.
 - b) Explain the structure and function of Ecosystem.
 - c) Define environmental studies and explain the nature of environmental studies.
- Q.5 Broad Answers Question. (Any One) 08**
- a) Explain the causes and effects of Air pollution.
 - b) Explain in details the Wildlife Protection Act.

Seat No.	
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**Five Year Integrated (M. Tech.) (Sem- IV) (New) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Drug & Cosmetic Laws – II (CT1409)**

Day & Date: Saturday, 15-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 40

- Instructions:**
- 1) All questions are compulsory.
 - 2) Answer to all questions are to be written in one answer book only.
 - 3) All questions carry equal marks.
 - 4) Figures to the right indicate full marks.
 - 4) Draw neat labeled diagram wherever necessary.
 - 5) Use of calculator and log table is allowed.

Q.1 Choose the correct alternatives from the options.

08

- 1) _____ is the penalty for wrongful disclosing result pertaining to result of analysis as per factory act.

a) Imprisonment upto 6 months	b) Fine upto Rs. 10000
c) Both a and b	d) None of the above
- 2) The vice president of central council holds an office for a term of _____ years.

a) 1	b) 5
c) 3	d) 6
- 3) The maximum limit upto which earned leave can be accumulated is _____ days for sale promotion employees.

a) 10 days	b) 30 days
c) 21 days	d) 180 days
- 4) The shops and establishments Act enacted in the year _____.

a) 1872	b) 1953
c) 1976	d) 1948
- 5) The provisions relating to _____ have been repealed after the amendment of patent act.

a) Pre-grant opposition	b) Post-grant opposition
c) Exclusive marketing rights	d) None of the above
- 6) Certificates of fitness given by certifying surgeon is valid for _____.

a) 24 months	b) 12 months
c) 36 months	d) None of the above
- 7) Penalty for failure to surrender certificate of registration as per pharmacy act is _____.

a) Fine upto Rs. 500	b) Fine upto Rs. 1000
c) Imprisonment upto 6 months	d) Fine upto Rs. 50
- 8) Complete specification must be submitted within _____ months of filing the provisional.

a) 12	b) 48
c) 3	d) 6

- Q.2 Answer any four of the following. 08**
- a) Define the following:
 - 1) Adolescent
 - 2) Occupier
 - b) What are the objectives of the Shops and Establishment Act?
 - c) Write down the function of Pharmacy Council of India.
 - d) Enlist the other welfare acts that are applied to the sale promotion employees.
 - e) What can be patented?
 - f) Define the term manufacturing process as per Factory Act.
- Q.3 Write short notes on any two of the following. 08**
- a) Write a note on mandatory holidays as per Sale Promotion Act.
 - b) Write a note on Rights of Patentee.
 - c) Write a note on powers of inspectors as per Factor Act.
- Q.4 Answer any two of the following 08**
- a) Give the constitution of a central council (PCI).
 - b) What is the procedure for registration of establishment?
 - c) What particulars to be included in a notice by occupier to chief inspector as per Factor Act?
- Q.5 Answer any one of the following. 08**
- a) Write down the procedure for a grant of a patent.
 - b) Describe the welfare provision as per the Factory Act.

Seat No.	
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**Five Year Integrated M. Tech. (Sem-V) (New) (CBCS) Examination:
March/April-2023
COSMETIC TECHNOLOGY
Perfume - I (CT1501)**

Day & Date: Sunday, 16-07-2023
Time: 11:00 AM To 01:00 PM

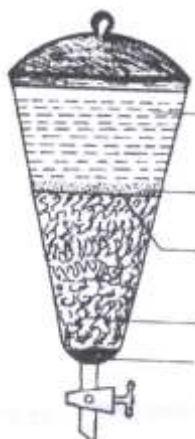
Max. Marks: 40

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternatives from the options.

08

- 1) What is the general molecular formula of alcohols?
 - a) $C_nH_{2n+1}OH$
 - b) $C_nH_{2n+1}CHO$
 - c) $C_{2n+1}H_nOH$
 - d) None of the above
- 2) What are the properties of alcohol in Cosmetics?
 - a) As a preservative
 - b) Viscosity controlling
 - c) Act as a Solvent
 - d) All of the above
- 3) Ethanol is produced by fermentation of _____.
 - a) Sugars
 - b) Starch
 - c) Protein
 - d) Both a & b
- 4) What is the full form of TLC?
 - a) Thick Layer Chromatography
 - b) Thin Layer Chromatography
 - c) Thin Line Chromatography
 - d) None of the above
- 5) Removal of any unpleasant odor from ethanol is called _____.
 - a) Deodorization
 - b) Distillation
 - c) Ozonation
 - d) None of the above
- 6) Name the following diagram:



- a) Soxhlet Apparatus
 - b) Percolator
 - c) Distillation plant
 - d) None of the above
- 7) What are the types of Distillation?
- a) Hydro
 - b) Steam
 - c) Steam + Hydro
 - d) All of the above

- 8) How to increase the extraction efficiency?
- | | |
|--------------------------------|-----------------------|
| a) Dissolve in water | b) Crush the material |
| c) Dissolve in Distilled water | d) Dry the material |

Q.2 Answer any four of the following **08**

- 1) What are the properties of alcohol in cosmetic preparations?
- 2) Draw the Flow diagram of Steam distillation method.
- 3) What are the merits & demerits of Soxhlation?
- 4) What are the properties of Lemon?
- 5) Write a note on Absolute Solvent extraction.
- 6) Draw a diagram of the Soxhlet device.

Q.3 Write short notes on any two of the following **08**

- 1) Write the geographical sources and properties of Mango.
- 2) What are the properties and uses of Eugenol?
- 3) Write a note on boiler, Condenser & oil separator.

Q.4 Answer any two of the following **08**

- 1) Write in details about Myrrh.
- 2) Write a note on Pineapple.
- 3) Write a note on Deodorization of ethanol.

Q.5 Answer any one of the following. **08**

- 1) Write in detail processing steps involved in manufacturing of ethanol.
- 2) Write a note on water distillation with their advantages and disadvantages.

Seat
No.

**Five Year Integrated M. Tech. (Sem-V) (New) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Cosmetic Technology III (CT1502)**

Day & Date: Monday, 17-07-2023
Time: 11:00 AM To 01:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
2) Answer to all questions are to be written in one answer book.
3) All questions carry equal marks.
4) Figures to the right indicate full marks.
5) Draw neat labelled diagrams whenever necessary.
6) Use of calculator and log table is allowed.

Q.1 Choose the correct alternatives from the options.**08**

- 1) _____ wax is obtained from mineral source.

a) Candelial	b) Ozokerite
c) Carnauba	d) Spermaceti

- 2) _____ is also known as eczema.

a) Contact dermatitis	b) Atopic dermatitis
c) Seborrheic dermatitis	d) None of the above

- 3) _____ is a synthetic antioxidant.

a) BHA	b) BHT
c) TBHQ	d) All of the above

- 4) _____ unsaturated fatty acid increases the solubility of soap.

a) Linoleic	b) Oleic
c) Linolenic	d) Ricinoleic

- 5) _____ is a sequestering agent used in the formulation of foam bath.

a) Sodium lauryl sulphate	b) Citric acid
c) Magnesium stearate	d) Formaldehyde

- 6) With _____ white creams are produced.

a) Lanolin	b) Stearic acid
c) Mineral oil	d) None of the above

- 7) _____ is called the mother of all antioxidants.

a) Melatonin	b) Glutathione
c) Alpha lipoic acid	d) Selenium

- 8) Butylene glycol is a more effective solubilizer than _____.

a) Glycerin	b) Propylene glycol
c) Both a and b	d) None of the above

Q.2 Answer any four of the following**08**

- 1) What is the role of glyceryl monostearate in the preparation of cream and why it is preferred to use over alkali stearate
- 2) How the skin moisturization is achieved
- 3) Enlist the free radical diagnostic techniques.
- 4) What makes soap opaque? How soap are made transparent
- 5) Write down the purpose of bath preparation.
- 6) What are the causes of oily skin?

Q.3 Write short notes on any two of the following**08**

- 1) Write a short note on packing of creams.
- 2) Write a short note on Glycerol.
- 3) Write a short note on types of soaps.

Q.4 Answer any two of the following**08**

- 1) Define antioxidant and write down the procedure for hydrogen radical scavenging assay.
- 2) What are bath preparations? Add a note on foaming agents used in foam bath preparations.
- 3) Write down the ideal properties of humectants and explain drying out of skin.

Q.5 Answer any one of the following.**08**

- 1) Describe the different methods of manufacturing of soap.
- 2) Define and classify the skin creams. Write down the formulation aspects of skin creams.

Seat No.	
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**Five Year Integrated M. Tech. (Sem-V) (New) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Principles of Cosmeceutics – I (CT1503)

Day & Date: Tuesday, 18-07-2023
Time: 11:00 AM To 01:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labelled diagrams and give equations whenever necessary.
4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple choice questions.

08

- 1) Physical tests of emulsions do not include _____.

a) Zeta potential	b) Redispersibility
c) pH	d) Microbiological contamination

- 2) For all gasses, solubility _____ as the temperature of the solution increases.

a) Increases	b) Decreases
c) No change	d) First increases then decreases

- 3) If adhesive force is greater than cohesive force, then what occurs?

a) Wetting	b) Spreading
c) Capillary rise	d) All the above

- 4) On increasing the temperature, the kinetic energy of the liquid molecules

a) Lowered	b) Remains constant
c) Increases	d) Decreases

- 5) In electric double layer model excess negative ions are present at _____ region.

a) Tightly bound layer	b) Diffuse second layer
c) Nernst potential	d) Zeta potential

- 6) Structured vehicles are also called _____.

a) Thickening agents	b) Suspending agents
c) Emulsifying agents	d) Both a and b

- 7) Which of the following stress conditions are used for emulsions?

a) Aging and temperature	b) Centrifugation
c) Agitation	d) All of these

- 8) Controlled flocculation of particles is obtained by adding _____.

a) Flocculating agents	b) Suspending agents
c) Wetting agents	d) All of these

- Q.2 Answer any four of the following** **08**
- 1) Define Diffusion and Dissolution.
 - 2) Write down Stokes law.
 - 3) Define the term isotonicity with an example.
 - 4) Describe any two identification tests for emulsion.
 - 5) What is Suspension? Give its classification.
 - 6) Define vapour pressure.
- Q.3 Write short notes on any two of the following** **08**
- 1) Explain the different methods for determining the type of emulsion.
 - 2) Write a note on zeta potential.
 - 3) What is solubility? Give the different expression of solubility.
- Q.4 Answer any two of the following.** **08**
- 1) Write a note on stability of suspension.
 - 2) Explain Critical solution temperature and mention their applications.
 - 3) What is creaming? Explain upward and downward creaming.
- Q.5 Answer any one of the following.** **08**
- 1) Write down the construction principle and working of a colloid mill.
 - 2) Define and derive Raoult's law. Write its applications.

Seat No.	
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Set P

**Five Year Integrated (M. Tech.) (Semester - V) (New) (CBCS) Examination:
 March/April-2023
 COSMETIC TECHNOLOGY
 Beauty Culture – I (CT1504)**

Day & Date: Wednesday, 19-07-2023
 Time: 11:00 AM To 01:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
 2) Draw neat labelled diagram and give equations whenever necessary.
 3) Figures to the right indicate full marks.
 4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple Choice Question.**08**

- 1) Paraffin is _____.
 - a) Clay
 - b) Wax
 - c) Mud
 - d) None of the above
- 2) A stimulating brisk shaking movement done with finger tips is called as _____.
 - a) Vibration
 - b) Tapotment
 - c) Friction
 - d) Enffleurage
- 3) Approximately 80% of sunlight comprises of _____.
 - a) Visible light
 - b) UV light
 - c) Low spectrum
 - d) High spectrum
- 4) Following are conditions which causes pimples on skin.
 - a) Freckles
 - b) Acne
 - c) Melasma
 - d) All of above
- 5) Temporary hair removal procedure is _____.
 - a) Epilation
 - b) Electrolysis
 - c) Tweezing
 - d) Depilation
- 6) _____ is innermost layer of skin.
 - a) Cortex
 - b) Cuticle
 - c) Bulge
 - d) Medulla
- 7) Hair is mainly composed of protein termed as _____.
 - a) Keratin
 - b) Heparin
 - c) Collagen
 - d) Elastin
- 8) What is the use of powders while performing waxing?
 - a) Cleansing the area to be treated
 - b) Avoid brushing on skin
 - c) Separate hair strain
 - d) To stick the wax to skin

Q.2 Answer any four of the following:**08**

- 1) Enlist different types of facial.
- 2) Enlist different types of skin.
- 3) What are different hair removal methods?
- 4) Name the tools used for waxing.
- 5) Define cleansing and toning.
- 6) Define Epilation and depilation.

- Q.3 Write short notes on any two of the following. 08**
- a) What are skin blemishes? Discuss about it.
 - b) What are the different layers of skin? Write its function.
 - c) What are the different types of skin treatment? Explain any two.
- Q.4 Answer any Two of the following: 08**
- a) What are the different types of face mask? Explain about its ingredient.
 - b) Describe the methods used for skin analysis.
 - c) Define essential oil. Write the precaution to be taken before usage of essential oil.
- Q.5 Answer any one of the following: 08**
- a) What is waxing? Write the detail procedure for waxing.
 - b) Discuss the massage technique used for facial.

Seat No.	
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Set P

**Five Year Integrated (M. Tech.) (Semester - V) (New) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Pharmacology & Interaction-I (CT1509)**

Day & Date: Thursday, 20-07-2023
Time: 11:00 AM To 01:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
2) Draw neat labelled diagrams and give equations whenever necessary.
3) Figures to the right indicate full marks.
4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple choice questions.**08**

- 1) _____ is study of what drug does to the body.
 - a) Pharmacokinetic
 - b) Pharmacodynamic
 - c) Pharmacotherapeutics
 - d) Pharmacovigilance
- 2) Maximum response elicited by drug is _____.
 - a) Drug potency
 - b) Drug efficacy
 - c) Drug specificity
 - d) None of above
- 3) Mutation in the _____ are at increased risk of developing atopic dermatitis.
 - a) Filaggrine gene
 - b) BRCA gene
 - c) Adenomatous polyposis coli protein
 - d) CREB binding protein
- 4) Cryotherapy involves use of _____.
 - a) Liquid nitrogen
 - b) Salicylic acid
 - c) Urea
 - d) Cantharidine
- 5) A small moon at the base of nail is also called _____.
 - a) Lunula
 - b) Hyponychium
 - c) Nail matrix
 - d) None of above
- 6) Side effect of nail polish is _____.
 - a) Nail pigmentation
 - b) Keratin granulation
 - c) Onycholysis
 - d) All the above
- 7) Accepted theory in dentin hypersensitivity is _____.
 - a) Odontoblastic transduction theory
 - b) Neural theory
 - c) Skin barrier hypothesis
 - d) None of above
- 8) Object drug is _____.
 - a) Drug under clinical trial
 - b) Drug without API
 - c) Drug whose activity is effected due to interaction
 - d) None of above

- Q.2 Answer any four of the following:** **08**
- 1) Enlist the scope of Pharmacology in Cosmetics?
 - 2) How will you reduce the drug Interaction?
 - 3) Explain Hyperhidrosis with its types.
 - 4) What is atopic dermatitis and explain the hypothesis behind atopic dermatitis.
 - 5) What is hypopigmentation? Write down the significance of melanin.
 - 6) What is biotransformation? Why it is needed?
- Q.3 Write short notes on any two of the following.** **08**
- a) Explain local side effect due to application of nail cosmetics.
 - b) Explain etiology of dandruff formation and enlist non microbial factors responsible for dandruff.
 - c) Write down the treatment for warts.
- Q.4 Answer any Two of the following:** **08**
- a) Write about depigmentation.
 - b) Define dental caries and explain factors responsible for dental caries.
 - c) What is contact dermatitis? Explain pathophysiology of Contact dermatitis.
- Q.5 Answer any one of the following:** **08**
- a) What are antiacne agents? Write down etiology and factor responsible for acne development along with treatment for acne.
 - b) What is clearance? Explain renal clearance and describe the factors affecting the renal clearance.

Seat
No.

**Five Year Integrated M. Tech (Semester - VI) (New) (CBCS)
Examination: March/April-2023
Perfume II (CT1601)**

Day & Date: Sunday, 16-07-2023
Time: 03:00 PM To 05:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
2) Draw a neat diagram and equations wherever necessary.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions.**08**

- 1) The evaporation period of the Base notes is _____.
a) 20 to 60 minutes b) 5 to 15 minutes
c) More than 60 minutes d) None of the above
- 2) The Popular base notes include _____.
a) Vanilla b) Amber
c) Musk d) All of the above
- 3) Which is not present in Grignard reagent?
a) Methyl group b) Magnesium
c) Halogen d) -COOH group
- 4) Complete the following reaction: $\text{H}_2\text{C}=\text{CH}_2 + \text{H}_2\text{Ni} \longrightarrow$
a) CH_3-CH_3 b) CH_2-CH_2
c) $\text{CH}_3=\text{CH}_3$ d) None of the above
- 5) Citronella oil gives a flavoring _____.
a) Rose b) Lemon
c) Jasmine d) None of the above
- 6) Complete the following reaction:

a) RMgX b) RXMg
c) RMgH d) None of the above
- 7) What is the purpose of adding carbon to the recrystallization process?
a) Remove color impurities b) Increase product yield
c) To color the product d) None of the above
- 8) The pyramid of fragrances consists of _____.
a) Top notes b) Middle notes
c) Base notes d) All of the above

Q.2 Answer any four of the following.**08**

- 1) Draw the diagram of Fragrance Pyramid.
- 2) Write a note on Base notes.
- 3) Define & Classify Fixatives.
- 4) Define Fruit Notes.
- 5) What are the uses of Citronellal?

- Q.3 Write short notes on any two of the following. 08**
- a) What are the Precautions taken in synthesis of Coumarin?
 - b) What are the Biological & Geographical Sources of Balsam of Peru?
 - c) Define Nitration & Explain the reaction and mechanism.
- Q.4 Answer any Two of the following. 08**
- a) Write a note on Civet Fixatives.
 - b) Write a note on Benzoin Fixatives.
 - c) Explain the Hydrogenation process with reaction.
- Q.5 Answer any one of the following. 08**
- a) What the uses of Lemon & Cinnamon?
 - b) Write in detail Synthesis of Benzyl benzoate.

Seat No.	
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Five Year Integrated (M. Tech.) (Semester - IV) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Cosmetic Technology IV (CT1602)

Day & Date: Monday, 17-07-2023
 Time: 03:00 PM To 05:00 PM

Max. Marks: 40

Instructions: 1) All questions are compulsory.
 2) Figures to the right indicate full marks.

Q.1 Multiple Choice Question.

08

- 1) _____ is a conditioning humectant.
 - a) Dimethicone
 - b) Chitosan
 - c) Carbopol
 - d) None of the above
- 2) Acrodynia is characterized by pink discoloration of the _____.
 - a) Hands
 - b) Feet
 - c) Both a and b
 - d) None of the above
- 3) _____ is the duration of erythema toxicum neonatorum in babies.
 - a) 6-12 months
 - b) 3-6 months
 - c) 1-2 months
 - d) 5-7 days
- 4) _____ used in alone, make the lipstick grainy.
 - a) Beeswax
 - b) Carnauba wax
 - c) Butyl stearate
 - d) Tetrachloro tetrabromo fluorescein
- 5) _____ is used to prevent settling of the pigments in liquid rouge.
 - a) Magnesium carbonate
 - b) Polyvinyl alcohol
 - c) Dibromo-fluorescein
 - d) Isopropyl palmitate
- 6) Which of the following pigment will impart green colour to eye makeup product?
 - a) Carmine
 - b) Chromium oxide
 - c) Iron oxide sienna shade
 - d) None of the above
- 7) Which of the following statement is correct about face packs?
 - a) Take less time to dry
 - b) Interferes with normal skin respiration
 - c) Removed by peeling off
 - d) None of the above
- 8) Well formulated emulsified rouge cream is _____.
 - a) Non greasy
 - b) Lard like appearance
 - c) Feel spongy
 - d) Both b and c

- Q.2 Answer any four of the following: 08**
- 1) How carmine is obtained.
 - 2) Write down the procedure for preparation of clear vinyl mask.
 - 3) Why barrier creams are used?
 - 4) What are the different ways by which the settling of the pigment is prevented in suspension type of rouge?
 - 5) Write down the formula and procedure for manufacturing of liquid eyeliner.
 - 6) What criteria to be considered during development of baby products.
- Q.3 Write short notes on any two of the following. 08**
- a) Write a note on Hydroquinone as a skin lightening agent.
 - b) Write a note on lip salves.
 - c) Write a note on skin problems in babies
- Q.4 Answer any Two of the following: 08**
- a) Describe earth based system of face pack and mask with their formula and preparation.
 - b) Add a note on eyeshadow.
 - c) Write down the formulation aspect of hand cleansers.
- Q.5 Answer any one of the following: 08**
- a) Explain in detail manufacturing of lipsticks.
 - b) Elaborate the ingredients used in compact rouges and its manufacturing.

Seat No.	
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Five Year Integrated (M. Tech.) (Semester - VI) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Principle of Cosmeceutics - II (CT1603)

Day & Date: Tuesday, 18-07-2023
 Time: 03:00 PM To 05:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
 2) Draw neat labelled diagrams and give equations whenever necessary.
 3) Figure to the right indicate full marks.
 4) Use of a logarithmic table and calculator is allowed.

Q.1 Multiple choice questions.

08

- 1) Protective colloids do not _____.
 a) Ultracentrifuge
 b) Ultrafilter's
 c) Ultramicroscopic
 d) Zeta meter
- 2) Which of the following colloids is difficult to prepare?
 a) Molecular disperses
 b) Colloidal dispersions
 c) Suspension
 d) Emulsion
- 3) One micrometer is equal to _____.
 a) 10^{-6} cm
 b) 10^{-3} cm
 c) 10^{-6} m
 d) 10^{-3} m
- 4) For good flow of powder angle of repose should be _____.
 a) Less than 20
 b) Between 20 to 30
 c) Between 30 to 40
 d) Above 40
- 5) Name the type of colloidal dispersion to which electrolytes are normally added in small quantities to stabilize _____.
 a) Formation of micelles
 b) Hydration of solids
 c) Lowering interfacial tension
 d) Presence of electrical charge
- 6) Helium pycnometer is used to determine _____.
 a) Size
 b) True density
 c) Sedimentation rate
 d) Surface area
- 7) The powder having low density or large bulk volume is known as _____.
 a) Granule powder
 b) Bulk powder
 c) Light powder
 d) Heavy powder
- 8) High repose angle of the granules indicated _____.
 a) Bulk density of the granules
 b) Porosity of the granules
 c) Roughness of the granule surface
 d) Smoothness of the granule surface

- Q.2 Answer any four of the following.** **08**
- a) What is bulk density and true density?
 - b) Give packaging arrangement of powders.
 - c) What is particle size distribution and particle number?
 - d) What is Negative thixotropy?
 - e) Define Viscosity along with its units of expressions
 - f) What is the dispersed phase? Give characteristics of dispersed phase.
- Q.3 Write short note on any two of the following.** **08**
- a) Define Thixotropy and give its applications.
 - b) Define angle of repose. Explain the method to determine the same.
 - c) Write a note on distribution phenomena.
- Q.4 Answer any two of the following.** **08**
- a) Discuss plastic and pseudo plastic systems of flow.
 - b) Enumerate methods to determine the particle size. Explain any two methods to determine the particle size.
 - c) What are Bulges and Spurs'? Explain along with examples?
- Q.5 Answer any one of the following.** **08**
- a) What are the derived properties of powders? Explain any two.
 - b) Discuss the optical and electrical properties of colloids.

Seat No.	
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Five Year Integrated (M. Tech.) (Semester - VI) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Beauty Culture – II (CT1604)

Day & Date: Wednesday, 19-07-2023
 Time: 03:00 PM To 05:00 PM

Max. Marks: 40

- Instructions:** 1) All questions are compulsory.
 2) Draw neat labelled diagram and give equations whenever necessary.
 3) Figures to the right indicate full marks.
 4) Use of logarithmic table and calculator is allowed.

Q.1 Multiple Choice Question.

08

- 1) What is the purpose of makeup?
 - a) To High Light the facial features
 - b) To tone down the facial features
 - c) To darken the colour of skin
 - d) To emphasize the colour of skin
- 2) How many facial shapes are there?
 - a) Six
 - b) Seven
 - c) Eight
 - d) Nine
- 3) Which of the below does not come under the beauty products list?
 - a) Face structure
 - b) Face shape
 - c) Knowledge of beauty products
 - d) Rates of beauty products
- 4) When is primer used in makeup?
 - a) Before Eye Shadow
 - b) Before stating the makeup
 - c) Before setting the foundation
 - d) At the end of makeup
- 5) Temporary hair removal procedure is _____.
 - a) Epilation
 - b) Electrolysis
 - c) Tweezing
 - d) Depilation
- 6) Which are the important beauty products used in makeup?
 - a) Foundation and powder
 - b) Concealer and Mascara
 - c) Eye liner and lipstick
 - d) All above
- 7) Hair is mainly composed of protein termed as _____.
 - a) Keratin
 - b) Heparin
 - c) Collagen
 - d) Elastin
- 8) On which part of the face is eyeshadow used?
 - a) Eyes
 - b) Cheeks
 - c) Lips
 - d) Hands

Q.2 Answer any four of the following:

08

- 1) Enlist different types of face types.
- 2) Enlist different makeup products.
- 3) Enlist the steps involved in makeup?
- 4) Name the tools used for manicure & pedicure.
- 5) Define manicure and pedicure.
- 6) Define corrective makeup.

- Q.3 Write short notes on any two of the following. 08**
- a) Write a note on shampooing & conditioning.
 - b) Write the procedure for day makeup.
 - c) Write a short note on code of ethics.
- Q.4 Answer any Two of the following: 08**
- a) Discuss in detail structure of hair.
 - b) Describe pre-makeup skincare.
 - c) Discuss corrective makeup for lips.
- Q.5 Answer any one of the following: 08**
- a) What are false eyelashes? Write the procedure for application.
 - b) Discuss the hair problem & remedy for the same.

Seat
No.

**Five Year Integrated (M. Tech.) (Sem- VI) (New) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Pharmacology & Interaction-II (CT1609)**

Day & Date: Thursday, 20-07-2023
Time: 03:00 PM To 05:00 PM

Max. Marks: 40

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions:**08**

- 1) Example of cauterizing agent is _____.
 - a) Conc. HNO₃
 - b) Conc. HCl
 - c) Conc. H₂SO₄
 - d) All the above
- 2) Avidity is used to _____.
 - a) explain the specificity of antigen
 - b) denote the overall capacity of antibodies to combine with multivalent antigen
 - c) calculate the binding capacity of compliment
 - d) explain the diseased state of human
- 3) Ig domain (protein domain) of antibody consist folded repetition of _____ amino acids.
 - a) 110
 - b) 145
 - c) 210
 - d) 245
- 4) Allergic contact dermatitis is _____ hypersensitivity.
 - a) Type I
 - b) Type II
 - c) Type III
 - d) Type IV
- 5) Commercially available ELISA kits are used for the detection of _____.
 - a) Rotavirus
 - b) Hepatitis B surface antigen
 - c) Anti-HIV antibodies
 - d) All the above
- 6) Sentence A: Allergic Rhinitis: Usually nasal discharge remains clear.
Sentence B: Common Cold: Initial clear nasal discharge becomes thick and purulent after few days.
 - a) Only Sentence A is correct
 - b) Only Sentence B is correct
 - c) Both A and B sentences are correct
 - d) None of above
- 7) Following are the vehicles used for the test substance in patch test except.
 - a) Chloroform
 - b) Alcohol
 - c) Water
 - d) Olive oil

- 8) Some substances such as toothpaste, shampoo may produce glaze reaction in patch test which may be mistaken for false positive result. Such substance preferably be tested by _____.
- a) Antigen Cup method
 - b) Buehler test
 - c) Open patch test
 - d) Magnusson and Kligman guinea pig maximization test

Q.2 Answer any four of the following.**08**

- a) What is
 - 1) Angry back
 - 2) Patch test battery.
- b) Comment on BIS.
- c) Explain contact dermatitis with its types.
- d) Write down the principle behind Patch Test.
- e) Write down the possible cause of Planter Fasciitis.
- f) Write down the cause of false positive and false negative results for Patch Test.

Q.3 Write short notes on any two of the following**08**

- a) Procedure for testing of volatile substances
- b) Serum sickness
- c) HRIPT

Q.4 Answer any Two of the following.**08**

- a) Describe structure of IgM with neat labeled diagram.
- b) Explain oral mucosal irritation test.
- c) Explain briefly: Allergic Contact Dermatitis.

Q.5 Answer any one of the following

- a) 1) Comment on different patches available in market for Patch Testing? In case of unavailability of patch how will you proceed for Patch testing in clinical laboratory? **06**
 - 2) Define: Hapten, Adjuvant **02**
- b) Describe Skin Irritation test (Draize test in Rabbit). **08**

Seat No.	
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**Five Year Integrated (M. Tech.) (Semester -VI) (Old) (CBCS) Examination:
March/April-2023**

**COSMETIC TECHNOLOGY
Cosmetic Technology IV (CT3602)**

Day & Date: Monday, 17-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
3) Figures to the right indicate full marks.
4) Use of logarithmic tables and calculator is allowed.

Q.1 Multiple choice questions.

14

- 1) _____ help to maintain the soft, smooth and pliable appearance of the skin.
 - a) Thickeners
 - b) Detergents
 - c) Emollients
 - d) None of the above
- 2) _____ is an antibiotic skin whitening substance.
 - a) Kojic acid
 - b) Arbutin
 - c) Ascorbic acid
 - d) Zinc Oxide
- 3) _____ is used in packs to decrease drying time
 - a) Rose water
 - b) Ethanol
 - c) Almond oil
 - d) All of the above
- 4) Primary milia are found on the _____.
 - a) Eyelids
 - b) Forehead
 - c) Cheeks
 - d) All of the above
- 5) _____ is an example of softening agent used in lipsticks.
 - a) Lecithin
 - b) Carmine
 - c) Bismuth Oxychloride
 - d) Tocopherol
- 6) _____ is used to produce a pearly shine in eyeshadow formulation.
 - a) Bismuth Oxychloride
 - b) Mica
 - c) Fish scale essence
 - d) All of the above
- 7) Water repellent binder used in rouge is _____ in nature
 - a) Liquids
 - b) Semi-solids
 - c) Solids
 - d) All of the above
- 8) _____ is a thickening agent.
 - a) Polysorbate 60
 - b) Triclosan
 - c) Lanolin
 - d) Methyl cellulose
- 9) Mercury poisoning results in _____.
 - a) Acrodynia
 - b) Photophobia
 - c) Polyneuritis
 - d) All of the above
- 10) _____ is used to lighten and brighten the mask.
 - a) Plasticizer
 - b) Emulsifier
 - c) Opacifiers
 - d) Emollients
- 11) Irritant contact dermatitis is characterized by _____.
 - a) Itchy red rashes
 - b) Blisters
 - c) Opening bleeding sores
 - d) All of the above

- 12) In liquid eyeliners _____ makes application smooth and increase viscosity.
 a) Diethylene glycol monostearate b) Magnesium carbonate
 c) Magnesium aluminium silicate d) Both b and c
- 13) _____ imparts orange-red colour to the lips.
 a) Carmine b) Eosin
 c) Acid Eosin d) None of the above
- 14) _____ is a film forming agent.
 a) Glycerin b) Sorbitol
 c) Ethanol d) Pectin

Q.2 A) Answer the following. (Any Four) 08

- 1) How carmine is obtained
- 2) Write down the difference between baby and adult skin
- 3) How to prevent occupational dermatitis
- 4) Write down the factors affecting production of melanin
- 5) What is the purpose of using face packs and masks?

B) Write a note on. (Any Two) 06

- 1) Write note on Rubber based formulation (system) for face packs and masks.
- 2) Write a note on Baby oil
- 3) Write a note on anti-wrinkle preparations.

Q.3 A) Answer the following. (Any two) 08

- 1) Describe the skin problems in babies.
- 2) What is mascara and write the formulation of mascara
- 3) Explain the hydrocolloids based formulation (system) for face packs and masks

B) Answer the following. (Any one) 06

- 1) Write down the preparation of Opaque Vinyl Mask.
- 2) Give an account on eyeshadow.

Q.4 A) Answer the following. (Any two) 10

- 1) Describe the solid waxes in lipstick formulation.
- 2) Add a note on hand cleansers
- 3) Add a note on emollients in barrier formulation

B) Answer the following. (Any one) 04

- 1) Write down the formula for skin bleach preparation and it's method of preparation
- 2) Write down the ideal characteristics of good lipsticks.

Q.5 Answer the following. (Any two) 14

- a) Write down the manufacturing of lipstick.
- b) Describe the skin whitening agents.
- c) Explain the rouge.

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Five Years Integrated M. Tech (Semester - VII) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Perfumes & Colours (CT3701)

Day & Date: Monday, 10-07-2023
 Time: 11:00 AM To 02:00 PM

Max. Marks: 70

Instructions: 1) All questions are compulsory.
 2) Figures to the right indicate full marks.

Q.1 Multiple choice questions.

14

- 1) Distribution of perfume in powder depends on _____.
 a) Quantity of powder b) Quality of powder
 c) Particle size of powder d) Odor of perfume
- 2) Now a day Perfuming powders are packed in _____ container.
 a) Glass b) Metal
 c) Plastic d) All of the above
- 3) What is the proportion of perfume for Face powder?
 a) 0.2 % b) 0.6%
 c) 1.0% d) 3.0%
- 4) Which type of odor is avoided in Lipstick perfuming?
 a) Pleasant flavor b) Odorant with bitter taste
 c) Objectionable flavor d) Both b & c
- 5) The pear like odor of nail lacquer is difficult to mask because they _____.
 a) are volatile in nature b) have strong odor
 c) Evaporates easily d) All of the above
- 6) Which condition is inappropriate for hair fragrance preparations?
 a) Neutral b) Alkaline
 c) Acidic d) None of the above
- 7) Shampoos must leave behind an attractive aura on the _____.
 a) Dried hair b) Wet hair
 c) Oily hair d) None of the above
- 8) How much Narcissus flowers are required for producing 2 kg of concentrate?
 a) 500 kg b) 1000 kg
 c) 700 kg d) None of the above
- 9) Acacia Trees begin to flower mainly from _____ to _____.
 a) April to June b) November to March
 c) July to August d) None of the above
- 10) Lilac essential oil has potential benefits for making of _____ cosmetics.
 a) Skin b) Hair
 c) Nail d) All of the above
- 11) Cypress oil is an essential oil made from the _____.
 a) Twigs b) Stems
 c) Leaves d) All of the above

- 12) Orris essential oil is used to add flavors in _____.
 a) Syrups b) Soft drinks
 c) Ice creams d) None of the above
- 13) *Violaceae* is the family of _____.
 a) Orris flower b) Violet
 c) Jasmine d) Cypress
- 14) Adaptation of perfumes means _____.
 a) Ability to sense the odor drops b) Ability to sense the colour drops
 c) Ability to sense the taste drops d) None of the above

Q.2 a) Answer the following (Any Four) 08

- 1) Define and classify the Cosmetic Products.
- 2) Define Emulsified fragrances.
- 3) What are traditional uses of Orris root?
- 4) What are the properties of Rose?
- 5) What are the solubilizers? Give their examples.

b) Write notes on (Any Two) 06

- 1) Write a note on perfumed products.
- 2) What are the uses of Jasmine essential oil?
- 3) What are the geographical sources & chemical composition of Acacia?

Q.3 a) Answer the following. (Any Two) 08

- 1) What are the properties and composition of Kewda root?
- 2) Write a note about the preparation of the alcoholic fragrance solution through the 'Split-process method'.
- 3) What are the chemical components of Carnation and Cypress?

b) Answer the following. (Any One) 06

- 1) Write a note about how to extract the carnation flower essential oil.
- 2) Write a note on perfuming powders.

Q.4 a) Answer the following. (Any Two) 10

- 1) Write a note on making of perfume of Jasmine by enfleurage and maceration process.
- 2) Write in detail about Rose flower.
- 3) Write a note about the preparation of the alcoholic fragrance solution through the "Regular process method"

b) Answer the following. (Any One) 04

- 1) Write a note on Diminished solvent method with examples.
- 2) What are the benefits of Lilac Essential Oil?

Q.5 Answer the following. (Any Two) 14

- 1) Explain in details about Solid perfumes and its examples.
- 2) What are the important properties of
 - a) Rose
 - b) Carnation
 - c) Lavender
- 3) Write a note on
 - a) Lilac
 - b) Violet

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**Five Years Integrated M. Tech (Semester - VII) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Cosmetic Technology-V (CT3702)**

Day & Date: Tuesday, 11-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicates full marks.
3) Draw neat labelled diagram wherever necessary.
4) Use of Calculator & log table is allowed.

Q.1 Multiple choice questions.**14**

- 1) The foam quantification is tested by following method:
 - a) Cohesimeter
 - b) Hydrometer
 - c) Ross- miles method
 - d) Detergents
- 2) Lauryl amino propionic acid in shampoo is used as:
 - a) Clarifier
 - b) Conditioner
 - c) Detergent
 - d) pH adjusted
- 3) Dry shampoo is recommended:
 - a) To make hair shiny
 - b) For elderly clients
 - c) Before chemical treatments
 - d) To repair damaged Hair
- 4) The texture & structure of hair are controlled by:
 - a) Chemical process
 - b) Conditioners
 - c) Heredity, health & diet
 - d) Scalp conditioners
- 5) For repair & treatment, deep penetrating conditioners must be left on the hair for:
 - a) 30-40 min
 - b) 10-20 min
 - c) Several hours
 - d) 5-10 min
- 6) Hair treated with a concentrated protein conditioner has all of the following qualities except:
 - a) Equalized porosity
 - b) Improved appearance
 - c) Improved quality of new hair growth
 - d) Increased elasticity
- 7) Scalp manipulation techniques include all of the following except:
 - a) Sliding & rotating moment
 - b) Rapid eye moment
 - c) Spine moment
 - d) Relaxing moment
- 8) Coal tar colour contains araenic acid should not be more than:
 - a) 4 ppm
 - b) 3ppm
 - c) 5 ppm
 - d) 2 ppm

- 9) Action of waving lotion is to:
- a) Expand the hair
 - b) Shrink the hair
 - c) Discolour the hair
 - d) None of the above
- 10) All of the following statements are true, except:
- a) Most of the bleaching products are hydrogen peroxide based.
 - b) Hydrogen peroxide is strong oxidant & can form radicals.
 - c) Carbamide peroxide decompose to release hydrogen peroxide in aqueous media.
 - d) Hydrogen peroxide is used as a good humectant.
- 11) Amphoteric surfactants show irritation in _____ solution.
- a) Alkaline
 - b) Acidic
 - c) Hypotonic
 - d) Hypertonic
- 12) Following are the silicones that form a thin layer on the hair without creating appearance of greasy & limp hair, except:
- a) Cyclomethicone
 - b) Dimethicone
 - c) Propylmethicone
 - d) Amodimethicone
- 13) Most conditioners contain:
- a) Humectants
 - b) Hydrophilic molecules
 - c) Citric acid
 - d) Surfactants
- 14) Resorcinol shows _____ activity.
- a) Antibiotic
 - b) Antiseptic
 - c) Anticancer
 - d) Antifungal

- Q.2 A) Answer the following. (Any Four) 08**
- 1) Define hair straighteners with examples.
 - 2) What are aerosol shampoos?
 - 3) State ideal characteristics of hair tonics.
 - 4) Write formulation base used in hair dyes.
 - 5) What are glossers in hair conditioners.
 - 6) Give a formula for hair rinse.
- B) Write notes on the following. (Any Two) 06**
- 1) Hair dye removers
 - 2) Liquid clear shampoos
 - 3) Women's hair dressing
- Q.3 A) Answer the following. (Any Two) 08**
- 1) Discuss about non pressurized hair styling products.
 - 2) Write about health hazards associated with para dyes and their testing.
 - 3) Write a note on acid balanced shampoo.
- B) Answer the following. (Any One) 06**
- 1) Discuss the process of hair dyeing & mechanism of colour formation in hair.
 - 2) Write in detail evaluation of shampoo.

- Q.4 A) Answer the following. (Any Two) 10**
- 1) Write a note on hair conditioners.
 - 2) Discuss materials used in hair tonic.
 - 3) Write a note on hair fixative preparations.
- B) Answer the following. (Any One) 04**
- 1) Discuss off-scalp techniques of hair coloring.
 - 2) Write about quality control of conditioners.
- Q.5 Answer the following. (Any Two) 14**
- a) Write in detail about bleaching of hair & metallic hair dyes.
 - b) Write about hair waving procedures & their evaluation.
 - c) Discuss formulation, preparation methods & quality control tests for shampoos.

Seat
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**Five Year Integrated M. Tech. (Sem-VII) (New) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Quality Assurance Techniques (CT3703)

Day & Date: Wednesday, 12-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labeled diagrams wherever necessary.

Q.1 Multiple Choice Questions.

14

- 1) Perform _____ during the production process.
 - a) Quality planning
 - b) Quality Assurance
 - c) Quality Control
 - d) None of the above
- 2) Size exclusion chromatography is also known as _____ chromatography.
 - a) High Performance Liquid
 - b) Ultra performance Liquid
 - c) Gel Filtration
 - d) Both a and b
- 3) Dirt dispersion, an evaluation parameter of shampoo involves use of _____.
 - a) Indian ink
 - b) Stalagmometer
 - c) Viscometer
 - d) Canvas paper
- 4) _____ additional batches should be conducted if the results of the confirmatory study are equivocal, in case of photo stability testing.
 - a) Four
 - b) Two
 - c) One
 - d) Three
- 5) Manufacturing activities are recorded in _____.
 - a) BPR
 - b) VMP
 - c) SOP
 - d) BMR
- 6) In NMR spectroscopy the spin quantum number value depends upon the _____ of nucleus.
 - a) Atomic number
 - b) Mass number
 - c) Both a and b
 - d) None of the above
- 7) Limit test is performed to determine _____ in tooth paste.
 - a) PPD
 - b) Particle size
 - c) Heavy metals
 - d) Solid content
- 8) Which of the following is a correct guideline for stability testing?
 - a) ICHQ3
 - b) ICHQ10
 - c) ICHQ8
 - d) ICHQ1
- 9) _____ is performed to check that, is there any wear and tear to the machine during transport, loading and unloading.
 - a) FAT
 - b) IQ
 - c) SAT
 - d) OQ
- 10) Turbidimetry deals with measurement of intensity of _____ light.
 - a) Absorbed
 - b) Scattered
 - c) Transmitted
 - d) Reflected

- 11) _____ test is performed to measure the irritancy, sensitization potential and phototoxicity of the skin of a prepared skin cream.
 - a) Limit
 - b) Sensitivity
 - c) Dye
 - d) Droop
- 12) As per ICH _____ % RH is condition for long term studies in general case.
 - a) 75% ± 5%
 - b) 40% ± 2%
 - c) 25% ± 2%
 - d) 60% ± 5%
- 13) _____ shall be prepared for regular validation in organization.
 - a) PQ
 - b) APQR
 - c) VMP
 - d) SMF
- 14) The mass spectrometer always works with _____ ion.
 - a) Negative
 - b) Amphoteric
 - c) Positive
 - d) All of the above

Q.2 A) Answer the following. (Any Four) 08

- 1) Write down the Objectives of GMP.
- 2) Define the following:
 - a) Chromatography
 - b) Retardation factor
- 3) What is a role of stability testing?
- 4) How the breaking point test for lipstick is performed.
- 5) Give the flow chart for RM/PM inspection.

B) Write Notes on. (Any Two) 06

- 1) Write a note on SOP.
- 2) Write a note on photo patch test.
- 3) Write a note on detectors in HPLC.

Q.3 A) Answer the following. (Any Two) 08

- 1) What is the industrial trend for process validation?
- 2) Write down the principle behind IR and enlist its applications.
- 3) What are the significant changes in a product that fails to meet the acceptance criteria during stability testing?

B) Answer the following. (Any One) 06

- 1) Explain in-vitro evaluation parameters of face wash.
- 2) Write in detail about instrumentation of HPTLC and give its applications.

Q.4 A) Answer the following. (Any Two) 10

- 1) Explain in detail Change Control.
- 2) What are the test conditions for finished product as per WHO for stability testing?
- 3) Write down the procedure for determination of total fatty substance content as per BIS for Skin cream.

B) Answer the following. (Any One) 04

- 1) Write down the procedure of spectrophotometric evaluation for sunscreen preparation.
- 2) Define the deviation and write down the various methods to identify root cause.

Q.5 Answer the following. (Any Two)

- a)** Describe the Qualification.
- b)** Write down the principle behind NMR and explain in detail its instrumentation.
- c)** Write down in detail about the guideline to be followed for the stability testing of finished product under different storage conditions as per ICH.

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**Five Year Integrated M. Tech. (Sem-VII) (New) (CBCS) Examination:
March/April-2023
COSMETIC TECHNOLOGY
Herbal Cosmetics – I (CT3704)**

Day & Date: Thursday, 13-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions.

14

- 1) Herbal cosmetics are the preparations, which represent cosmetics associated with _____.
a) bioactive ingredients or pharmaceuticals
b) Non bioactive ingredients or pharmaceuticals
c) synthetic ingredients or pharmaceuticals
d) none
- 2) The active principle curcumin is targeted in which part of the plant _____?
a) Leaf
b) stem
c) Rhizome
d) seed
- 3) The family of aloe barbadensis is _____.
a) Lythraceae
b) Leguminosae
c) Lauraceae
d) Liliaceae
- 4) The potential source of vitamin C is present in _____.
a) Citral
b) Citron
c) Citrus
d) Citrum
- 5) Turmeric powder possesses _____ & _____ properties.
a) Anti-inflammatory & antidote
b) Antipruritic & laxative
c) Antioxidant & anti-inflammatory
d) All of the above
- 6) Coal tar as a colourant is considered as human _____ and hence quite unsafe to use.
a) carcinogen
b) explosive
c) Irritant
d) none
- 7) Emblicaofficinalis contains a high proportion of _____ vitamin.
a) A
b) D
c) both a & b
d) C
- 8) "SarvaRogNivarini" is called as to which herb _____.
a) Turmeric
b) Neem
c) Aloe
d) Bawachi
- 9) Soap nut is the synonym for _____.
a) Nagarmotha
b) Multanimitti
c) Reetha
d) Amla
- 10) In Indian culture, Holy basil is known as _____.
a) Tulsi
b) Turmeric
c) both a & b
d) Sandalwood

Seat No.	
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**Five Year Integrated M. Tech. (Sem-VII) (New) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Material Management & Inventory Control (CT3709)

Day & Date: Friday, 14-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labeled diagrams wherever necessary.

Q.1 Multiple Choice Questions.

14

- 1) Following are the basic resources of business except.
 - a) Labor
 - b) Capital
 - c) Equipment
 - d) Electricity
- 2) Following group of words has certain characteristic, Identify the wrong word from given group below.
Price trends, Business cycles, Govt, import policy, Working capital
 - a) Working capital
 - b) Govt, import policy
 - c) Business cycles
 - d) Price trends
- 3) Identify the MRP input _____.
 - a) Master production schedule
 - b) Inventory record
 - c) Product structure
 - d) All the above
- 4) Spoke system is _____.
 - a) Centralized system
 - b) Local Purchase
 - c) Individual Purchase
 - d) De centralized Purchase
- 5) The Indian Contract Act has _____ Sections.
 - a) 266
 - b) 250
 - c) 280
 - d) 296
- 6) In cosmetic industry, written request of material requirement raised by production department to store department is called as _____.
 - a) Purchase note
 - b) Indent
 - c) Inventory note
 - d) None of above
- 7) Identify the factor responsible for adopting centralized or decentralized location of stores.
 - a) Cost of item
 - b) Storage condition of material
 - c) Transportation cost
 - d) All the above
- 8) Following are the methods of stock valuation except.
 - a) LIFO
 - b) Simple average price
 - c) Standard cost method
 - d) Delphi Analysis
- 9) Computer based database systems include _____.
 - a) Recording
 - b) Storing
 - c) Retrieving
 - d) All the above
- 10) Following are the Modern Inventory control system except.
 - a) EOQ
 - b) ABC Analysis
 - c) Two bin system
 - d) FSN Analysis

- 11) Carrying cost is also called as _____.
 - a) Holding cost
 - b) Transportation cost
 - c) Maintenance cost
 - d) Electricity cost.
- 12) Cost of goods sold does not include _____.
 - a) Distribution cost
 - b) Advertisement cost
 - c) Sales forecasting cost
 - d) All the above
- 13) _____ method is very suitable for a relatively high inflationary economy.
 - a) Replacement price
 - b) Simple average price
 - c) FIFO
 - d) All the above
- 14) **Sentence A:** Efficient material handling may results in Obsolescence.
Sentence B: Advent of new Automation technologies and design changes may results in Obsolescence.
 - a) True; True
 - b) False; False
 - c) False; True
 - d) True; False

Q.2 A) Answer the following. (Any Four) 08

- 1) Write down the objectives of material management.
- 2) What do you mean by consumable items? Give any 4 examples of consumable items of cosmetic industry
- 3) Write down the importance of Purchase management.
- 4) Write the reasons for obsolescence
- 5) What do you mean by
 - i) Lead time
 - ii) Carrying cost

B) Write notes on (Any Two) 06

- 1) What do you think about procurement and purchase?
- 2) Explain Individual purchase and organizational purchase.
- 3) Explain Goods received note or Material note with specimen format.

Q.3 A) Answer the following (Any two) 08

- 1) Write a note on Two bin system.
- 2) What is MRP? Give Input and MRP Output.
- 3) Explain supplier identification and selection of supplier.

B) Answer the following. (Any One) 06

- 1) What is stock verification?
- 2) Explain the cost associated with Inventory.

Q.4 A) Answer the following. (Any Two) 10

- 1) An invoice of chemical A and chemical B provide the following information.

	Amount
Chemical A : 10000 Kg @ 10 Rupees per Kg	100000
Chemical B : 8000 Kg @ 13 Rupees per Kg	104000
Basic Custom duty @ 10% (No Credit allowed)	20400
Railway Fright:	3840
Total cost	228240

Shortage observed: Chemical A : 500 Kg, Chemical B: 320 Kg
Assume Deterioration @ 2%

So, Calculate the rate per Kg for chemical A and Chemical B based on above information

- 2) Give the specimen format for
 - i) Rejection Note
 - ii) Inspection Note
- 3) Explain Traditional technique of Inventory control.

B) Answer the following (Any One) 04

- 1) Differentiate between centralized purchasing and decentralized purchasing.
- 2) Comment on Legal aspect of Purchasing.

Q.5 Answer the following (Any two) 14

- a) What is Tender system, Explain different types of tenders.
- b) Describe following methods of Stock valuation.
 - i) Simple average method
 - ii) Replacement price
 - iii) Weighted average price method
- c) Comment of functions of Material management.

Seat
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**Five Years Integrated M. Tech (Semester - VIII) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Colours in Cosmetics (CT3802)**

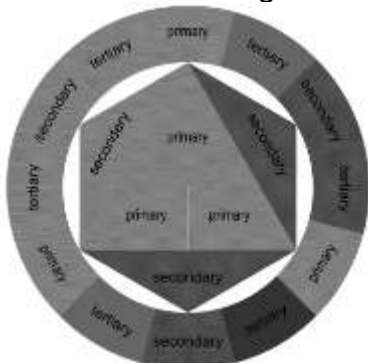
Day & Date: Monday, 10-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks:70

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw a neat diagram and equations wherever necessary.

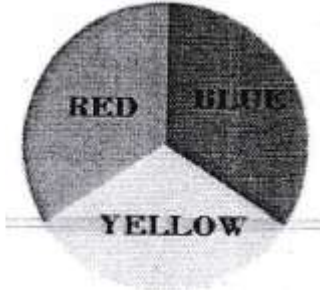
Q.1 Multiple choice questions.**14**

- 1) What are the Primary Colors?
 - a) Red
 - b) yellow
 - c) Blue
 - d) All of the above
- 2) What are Warm Colors?
 - a) Red
 - b) Yellow
 - c) Orange
 - d) All of the above
- 3) What are energetic colors?
 - a) Red
 - b) Yellow
 - c) Orange
 - d) Pink
- 4) What means chroma?
 - a) the purity of a color
 - b) the impurity of a color
 - c) Intensity of a color
 - d) None of the above
- 5) What is another word for chroma?
 - a) Paint
 - b) Dye
 - c) Coloration
 - d) All of the above
- 6) What is another word for Hue?
 - a) Chroma
 - b) Dye
 - c) Colour
 - d) All of the above
- 7) What are color systems?
 - a) RGB
 - b) CMYK
 - c) Both A & B
 - d) None of the above
- 8) What does this diagram indicate?



- a) Colour Wheel
- b) Color Circle
- c) Color Prism
- d) Color Spectrum

- 9) What are the Secondary Colors?
 a) Orange
 b) Green
 c) Violet
 d) All of the above
- 10) What are the Tertiary Colors?
 a) red-orange
 b) Yellow-Orange
 c) yellow-green
 d) All of the above
- 11) Which one is NOT a secondary color?
 a) Green
 b) Orange
 c) Purple
 d) Yellow
- 12) What are these called?



- a) Tertiary Colors
 b) Primary Colors
 c) Monochromatic Colors
 d) Complementary Colors
- 13) What are the 3 Primary colors?
 a) Red, purple, and blue
 b) Yellow, green, and orange
 c) Orange, purple, and yellow
 d) Yellow, red and blue
- 14) What is a Color Wheel?
 a) A visual tool that shows basic color
 b) A visual tool that shows additive colors
 c) Visual that display subtractive colors order
 d) A wheel that you can put colors on in any

Q.2 a) Answer the following (Any Four) 08

- 1) Define Colour & Chroma.
- 2) What is another word for chroma?
- 3) What is the opposite of chroma and what is the sense of high chroma colours?
- 4) What are color systems?
- 5) What are the advantages of Lake Colors?

b) Write notes on (Any Two) 06

- 1) What is a certified color? And explain the types of certified color.
- 2) Explain the term colour bleed and Toner.
- 3) Define Pigment colors, and what are the advantages of Pigment colors?

Q.3 a) Answer the following. (Any Two) 08

- 1) What is the relationship between colors and emotions? And explain any two colors.
- 2) What is a color recognition process?
- 3) Define and Classify Synthetic dyes.

b) Answer the following. (Any One) 06

- 1) What are the advantages of Natural dyes?
- 2) What are the ideal properties of dyes?

- Q.4 a) Answer the following. (Any Two) 10**
- 1) What are the important applications of Reactive and Direct dyes?
 - 2) Enlist any five examples of Basic dyes.
 - 3) What factors affect the color of the components?
- b) Answer the following. (Any One) 04**
- 1) Write a note on Energizing colors, Cool colors, Calming color and Sad colors
 - 2) What are the disadvantages of Synthetic dye?
- Q.5 Answer the following. (Any Two) 14**
- 1) Define and Classify colors.
 - 2) Write a note on synthesis of Methyl Orange.
 - 3) Which manufacturing processes affect the color of the components?

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**Five Years Integrated M. Tech (Semester - VIII) (New) (CBCS)
Examination: March/April-2023
Cosmetic Technology- VI (CT3803)**

Day & Date: Tuesday, 11-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 70

- Instructions:**
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Draw a neat diagram and equations wherever necessary.

Q.1 Multiple choice questions.

14

- 1) Urea is used as _____.
 - a) wound healer
 - b) Humectant
 - c) keratoplastic agent
 - d) All of the above
- 2) _____ is primary film former used in nail polish.
 - a) Nitrocellulose
 - b) Formaldehyde
 - c) Camphor
 - d) Guanine
- 3) The shaving sticks contain _____ % glycerol.
 - a) 1 to 2
 - b) 8 to 10
 - c) 20 to 30
 - d) 40 to 45
- 4) _____ radiations are used in tanning beds.
 - a) UVA
 - b) UVB
 - c) UVC
 - d) UVA
- 5) Professional grooming of the fingernails and the toenails is known as _____.
 - a) Manicures
 - b) Pedicures
 - c) Both a and b
 - d) None of the above
- 6) Which of these sunscreen ingredients is most likely to cause allergic reactions?
 - a) Avobenzone
 - b) Zinc oxide
 - c) Mexoryl SX
 - d) Oxybenzone
- 7) Purpose of wet shaving preparations is _____.
 - a) To wet beard
 - b) To lubricate the beards
 - c) To lubricate the beards
 - d) All of the above
- 8) The skin on the foot is _____ times thicker than on the rest of the body.
 - a) 10
 - b) 20
 - c) 25
 - d) 15
- 9) Cosmetic Dentifrice must _____.
 - a) be Clean
 - b) Polish the teeth
 - c) Reduce disease process
 - d) All of the above
- 10) _____ destroys cuticle Keratin in cuticle remover.
 - a) Sodium hydroxide
 - b) Propylene glycol
 - c) Nitrocellulose
 - d) None of the above

- 11) _____ Sunscreen agent is most effective at protecting against both UVA and LJVB rays?
a) Zinc dioxide
b) Titanium dioxide
c) Both a and b
d) Avobenzone
- 12) _____ binder is used in toothpaste.
a) Sorbitol
b) Xylitol
c) Dicalcium phosphate
d) Gum Arabic
- 13) _____ is used to soften the thick, hardened skin of calluses.
a) Powder
b) Salves
c) Emollient creams
d) plasters
- 14) Mouthwash is available as _____ formulation.
a) Concentrated
b) Ready to use
c) Potent
d) All of the above

- Q.2 a) Answer the following (Any Four) 08**
1) Define:
i) foot care preparation
ii) Ringes
2) Differentiate sunblock and sunscreen.
3) Define shaving preparation.
4) Define dentifrice. Enlist its ideal requirements.
5) Write down ideal properties of mouthwash.
- b) Write notes on (Any Two) 06**
1) Artificial tanning
2) After-shave preparations
3) Nail strengthener
- Q.3 a) Answer the following. (Any Two) 08**
1) Explain in detail cuticle remover.
2) Define mouthwash, classify them and explain formulation.
3) What do you mean by sunscreen? Explain the working principle of sunscreen.
- b) Answer the following. (Any One) 06**
1) Define dentifrices, classify them and Explain formulation of toothpaste.
2) Define nail paint and discuss in detail its formulation.
- Q.4 a) Answer the following. (Any Two) 10**
1) Discuss the evaluation of dentifrices.
2) Briefly explain skin tanning. Elaborate in detail tanning preparations.
3) Define manicure preparation and enlist them with example. Discuss in detail evaluation of nail paint.
- b) Answer the following. (Any One) 04**
1) Discuss in detail manufacturing of toothpaste.
2) Define shaving preparation. Write purpose behind its use.
- Q.5 Answer the following. (Any Two) 14**
1) Elaborate different foot problems. Discuss in detail foot preparation.
2) Define shaving preparation. Classify them. Discuss in detail wet shaving preparation.
3) Define sunscreen. Classify them according to working principle of sunscreen. Discuss in detail sunscreen agent.

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**Five Year Integrated M. Tech. (Semester- VIII) (New) (CBCS) Examination:
Oct/Nov-2022**

**COSMETIC TECHNOLOGY
Cosmeceuticals Microbiology (CT3804)**

Day & Date: Wednesday, 12-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Choose the correct alternative.

14

- 1) Lichen is an association of _____.
 - a) Algae and bacteria
 - b) Fungi and virus
 - c) Algae and Fungi
 - d) Fungi and cycas
- 2) Antibiotic _____ inhibits protein synthesis.
 - a) Streptomycin
 - b) Penicillin
 - c) Bacitracin
 - d) Nystatin
- 3) The effectiveness of chemical disinfectants has been compared to that of which of the following?
 - a) Phenol
 - b) ethyl alcohol
 - c) Formaldehyde
 - d) Bleach
- 4) Which of the following is suitable for use on living tissues for microbial control to prevent infection?
 - a) Disinfectant
 - b) Antiseptic
 - c) Water
 - d) Sterilant
- 5) _____ which of the following is true about cell wall of gram- positive bacteria?
 - a) Monolayered
 - b) it consists of teichoic acid
 - c) peptidoglycan layer is thicker than that of Gram- negative bacteria
 - d) All of these
- 6) Which of the following are reasons why UV light might be expected to be less effective in killing bacteria?
 - a) UV light cannot penetrate glass, cloth, paper, or most materials under which microbes might be located
 - b) UV light can penetrate air
 - c) UV light creates ions
 - d) UV light sources gain intensity over time
- 7) Obligatory intracellular parasites are _____.
 - a) Viruses
 - b) Actinomycetes
 - c) Paramecium
 - d) Rhodophyceae
- 8) D - value is referred to as _____.
 - a) Time required to decrease the microbial population by 90%
 - b) Time required to decrease the microbial population by 60%
 - c) Time required to kill the entire population
 - d) None of the above

- 9) All of the following are ionising radiations used in sterilization EXCEPT:
- X-rays
 - Gamma rays
 - Cosmic rays
 - Ultraviolet rays
- 10) The protein coat of virus is called as _____
- Outer envelope
 - Capsid
 - Capsomere
 - Virion
- 11) which statement/s is/are true regarding fungi?
- They are eukaryotic organism
 - Fungal cells do not have nucleus.
 - Cytoplasmic membrane contains sterols.
 - a and c
- 12) Agar - agar is used in microbiological media for _____.
- Nutritive value
 - Solidifying agent.
 - Carbon source
 - All of the above.
- 13) All of the following are true for lipopolysaccharide EXCEPT:
- It has Three regions O polysaccharide, core polysaccharide and lipid A.
 - Lipid A is responsible for endotoxic activities.
 - It forms an integral part of gram-positive cell wall.
 - It has O antigen specificity.
- 14) Ethylene oxide is a highly toxic agent, which destroys microorganism by a process called as _____.
- Cavitation
 - Oxidation
 - Osmosis
 - Alkylation

Q.2 A) Answer the following. (Any Four) 08

- What is the difference between basic and acidic dyes? Give few examples.
- Define Sterilization.
- What are inclusion bodies in bacteria? Give examples.
- Mention the conditions responsible for endospores formation? Mention few examples of sporulating bacteria.
- Write the Functions of bacterial capsule?

B) Writ notes on. (Any Two) 06

- Describe cell wall of Gram-Negative bacteria.
- Give an account on growth phases of bacteria.
- Define processes: sanitation, sterilization and disinfection.

Q.3 A) Answer the following. (Any two) 08

- Describe in detail gram staining.
- Describe structure, arrangement and function of flagella.
- Discuss the factors affecting efficiency of killing agents.

B) Answer the following. (Any one) 06

- Describe in detail methods of pure culture techniques.
- Write the different methods of physical sterilization.

- Q.4 A) Answer the following. (Any two) 10**
- 1) Explain the various methods of enumeration of microorganisms.
 - 2) Nutritional classification of bacteria based on carbon, energy and electron sources.
 - 3) General characteristics of protozoa.
- B) Answer the following. (Any one) 04**
- 1) Discuss enrichment culture technique.
 - 2) Describe in detail sterilization by chemical agents such as halogens, phenols and gaseous sterilization agents.
- Q.5 Answer the following. (Any two) 14**
- a) Describe in general life cycle of virus.
 - b) Explain preservative efficacy testing.
 - c) Discuss general characteristics of fungi.

Seat No.	
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**Five Year Integrated M. Tech. (Sem-VIII) (New) (CBCS) Examination:
March/April-2023
COSMETIC TECHNOLOGY
Herbal Cosmetics-II (CT3805)**

Day & Date: Thursday, 13-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple choice questions.

14

- 1) *Pterocarpus santalinus* was listed as an Endangered species by the _____.
a) IUCN
b) ICNU
c) INCU
d) CUNI
- 2) Tulsi consists of the fresh and dried leaves of ____ species.
a) *onion*
b) *ocimum*
c) *oncim*
d) *olicum*
- 3) *Majjstha* belong to family _____.
a) *Rubiaceae*
b) *Ruberaceae*
c) *Ruloaceae*
d) *Rubraceae*
- 4) *Carica Papaya* belongs to family _____.
a) *Carewaceae*
b) *Carvocaceae*
c) *Caricaceae*
d) *Carnolaceae*
- 5) Flavours and perfumes are _____.
a) essential oils
b) volatile oils
c) oils
d) liquids
- 6) Traditional herbal formulation includes _____.
a) tablets
b) syrups
c) mixtures
d) all of the above
- 7) Identification test includes _____.
a) macroscopic character
b) chemical reaction
c) microscopic character
d) all of the above
- 8) The study of use of medicinal plants is known as _____.
a) herbarium
b) pharmacognosy
c) herbalism
d) none
- 9) Herbs are defined as plant with _____.
a) aromatic property
b) flavoring properties
c) medicinal properties
d) all of the above
- 10) Macroscopic method includes _____.
a) shape and size
b) total ash value
c) cellular structure
d) none
- 11) Advantages of biopesticides are _____.
a) natural
b) less toxic
c) effective in small concentration
d) all of the above

- 12) There are _____ types of vedas.
- four
 - two
 - three
 - one
- 13) Classical ayurvedic formulation includes _____.
- ark
 - chuma
 - bhasma
 - all of the above
- 14) Powder made by calcification is also known as _____.
- chuma
 - pak
 - bhasma
 - ghrita
- Q.2 A) Answer any four of the following. 08**
- What is the role of herbs in cosmetics?
 - Which herbs are used in hair cosmetics?
 - Explain uses of *Akarkara*.
 - Write down the importance of *Palash*.
 - What are herbal formulations?
- B) Write Notes on (Any Two). 06**
- Explain economic importance of Herbal Cosmetic Products.
 - What are the benefits of *Lemon & Papaya* in beauty products?
 - Differentiate between herbal & synthetic cosmetics.
- Q.3 A) Answer the following (Any Two). 08**
- Write a note on *Curry leaves* with cosmetic formulation and chemical constituent.
 - Write a note on cosmetic formulation contain *Papaya* with its chemical constituent.
 - Write down the morphological characteristics of herbals used in cosmetics.
- B) Answer the following (Any One). 06**
- Discuss the advantages of herbal cosmetics.
 - Describe uses of *Palash* in skin care cosmetic formulation.
- Q.4 A) Answer the following (Any Two). 10**
- Describe skin care cosmetics of *Raktchandan* & their biological morphology, geographical sources with chemical constituents and cosmetic uses.
 - Describe hair care cosmetics of *Bhringraj* & their biological morphology, geographical sources with chemical constituents and cosmetic uses.
 - Describe extraction methods of herbal constituents by Soxhlet method.
- B) Answer the following (Any One). 04**
- Explain properties of solvents used in of extraction of herbal cosmetic.
 - Discuss the difference between Ayurvedic cosmetic and herbal cosmetic.
- Q.5 Answer the following (Any Two). 14**
- Explain skin care product containing *Tulsi & Majistha* with their biological source and geographical source, chemical constituent with cosmeceuticals uses.
 - Explain hair care product containing *Hibiscus & Neem* with their biological source and geographical source, chemical constituent with cosmeceuticals uses.
 - Describe the challenges in formulating the herbal cosmetics.

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**Five Year Integrated M. Tech. (Sem-VIII) (New) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Management and Organizational Behavior (CT3808)

Day & Date: Friday, 14-07-2023
Time: 03:00 PM To 06:00 PM

Max. Marks: 70

- Instructions:** 1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat labeled diagrams wherever necessary.

Q.1 Multiple Choice Questions.

14

- 1) _____ defined the term management as the art of getting things done through others.
 - a) John. e. Mee
 - b) Ivancerich, Donnelly and Gibson
 - c) George. R. Terry
 - d) Mary Parker
- 2) Management is a function which is concerned with _____.
 - a) The execution of policy
 - b) To establish group
 - c) To carry scientific analysis of business
 - d) All the above
- 3) Identify the correct sentence:

Sentence A: Management is a general name for the total process of executive control in industry or business.

Sentence B: Administration uses organization for the achievement of the targets fixed by Management.

 - a) Only Sentence A is correct
 - b) Only Sentence B is correct
 - c) Both sentence A and B are correct
 - d) None of above
- 4) _____ known as the father of scientific management.
 - a) Frederick W. Taylor
 - b) Henry Fayol
 - c) Henry Robinson Towne
 - d) None of above
- 5) _____ is a futuristic and proactive approach.
 - a) Contingency Planning
 - b) Tactical Planning
 - c) Strategic Planning
 - d) Operational Planning
- 6) _____ means dividing the large and monolithic functional organization into smaller flexible administrative units.
 - a) Dissolution
 - b) Merger
 - c) Acquisition
 - d) Departmentation
- 7) The ability to influence others behavior is known as _____.
 - a) Power
 - b) Authority
 - c) Impression
 - d) None of above
- 8) Identify the component of controlling process from below options.
 - a) Fixation of standards
 - b) Measurement of performance
 - c) Connective action
 - d) All the above

- 9) Float is _____.
a) Spare funds
b) Spare Inventory
c) Spare Product
d) Spare Time
- 10) _____ is responsible for coordinating and conducting quality circle activities.
a) Leader
b) Deputy Leader
c) Steering Committee
d) Facilitator
- 11) A means of getting a large number of ideas from a group of people in a very short time is known as _____.
a) Histogram
b) Pareto Analysis
c) Talent hunting
d) Brainstorming
- 12) _____ is the complex set of forces stalling and keeping a person at work in an organization
a) Motivation
b) Inspiration
c) Control
d) Leader
- 13) Following are the characteristics of Motivation except _____.
a) Simple and Predictable
b) Continuous Process
c) Positive or Negative
d) Influences the Behavior
- 14) Job enrichment is _____.
a) Upgrading of responsibility
b) Increasing the number of tasks
c) Both A and B
d) None of above

Q.2 A) Answer the following. (Any Four) 08

- 1) Explain the term Esprit de Corps.
- 2) Write in short about functions of management.
- 3) Organizing is multistep process, Explain.
- 4) Comment on limitations of Controlling.
- 5) Differentiate between Motivation and Inspiration.

B) Write Notes on. (Any Two) 06

- 1) Differentiate between Management and Administration.
- 2) Elaborate departmentation of Cosmetic Industry by Products.
- 3) Write down advantages and disadvantages of Job Enlargement.

Q.3 A) Answer the following. (Any Two) 08

- 1) Management is A Science or An Art share your views?
- 2) What is Power? Explain different types of power.
- 3) State various techniques of Controlling.

B) Answer the following. (Any One) 06

- 1) Write about Frederick W. Taylor contribution to evolution of management.
- 2) Define and Explain nature of planning.

Q.4 A) Answer the following. (Any Two) 10

- 1) What is KAIZEN and mention '5S' Methodology?
- 2) What is Motivation? Comment on process of Motivation.
- 3) Define Group and state its different types.

B) Answer the following. (Any One) 04

- 1) Comment on problems associated with Delegator part in Delegation of authority.
- 2) Explain different levels of Management in an Organization.

Q.5 Answer the following. (Any Two)

- a)** What do you mean by Group? Describe the Stages of Group Development.
- b)** What do you mean by Delegation of Authority? What is the importance of Delegation of Authority in Cosmetic Industry? Explain Principle of Delegation of Authority.
- c)** Elaborate Maslow's Hierarchy of Needs in detail.

Seat No.	
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**Five Year Integrated M. Tech. (Semester – IX) (New) (CBCS) Examination:
March/April-2023**

COSMETIC TECHNOLOGY

Advance Cosmetic Technology – I (CT3901)

Day & Date: Sunday, 16-07-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

Instructions: 1) All questions are compulsory.
2) Figures to the right indicate full marks.

Q.1 Multiple Choice Questions.

14

- 1) _____ are thermodynamically stable.
 - a) Microemulsions
 - b) Macroemulsions
 - c) Coarse emulsions
 - d) None of above
- 2) HLB for W/O emulsion is _____.
 - a) 1-2.5
 - b) 7-10
 - c) 10-15
 - d) 3-6
- 3) In secondary physicochemical preservation approach water activity can be reduced by _____.
 - a) Use of polyacrylamide hydrogels
 - b) Use of high temperature
 - c) Use of inert packaging
 - d) Use NaCl
- 4) Identify the different preservative from given group below.
Edible oil, Sorbates, Benzoates, Sulphites
 - a) Edible oil
 - b) Sorbates
 - c) Benzoates
 - d) Sulphites
- 5) Absorption of medicament through skin is best when we use following vehicle, except.
 - a) Animal oil
 - b) Vegetable oil
 - c) Organic solvents
 - d) Mineral oil
- 6) MOA of penetration enhancer is/are _____.
 - a) Lipid action
 - b) Protein alteration
 - c) Partitioning promotion
 - d) All the above
- 7) **Sentence A:** The activity of DMSO as penetration enhancer is concentration dependent.
Sentence B: Unsaturated fatty acids are more potent permeation enhancers than the saturated species.
 - a) True; True
 - b) False; False
 - c) False; True
 - d) True; False
- 8) Eau-de-cologne contains _____ perfume.
 - a) 5-15%
 - b) 15-20%
 - c) 2-4%
 - d) 20-30%

- 9) As per EUSCCP the maximum allowable limit for methylparabene and butylparaben is _____ when mixed with other esters. (when used individually or together)
 - a) 0.4%
 - b) 0.8%
 - c) 0.12%
 - d) 0.14%
- 10) Formaldehyde liberators are commonly found in _____.
 - a) Eye lash glue
 - b) Shaving Cream
 - c) Shampoo
 - d) All the above
- 11) Non materials usually exhibit _____ surface to volume ratio.
 - a) Small
 - b) Medium
 - c) Large
 - d) None of the above
- 12) _____ are vesicles that are mainly composed of non-ionic surfactants.
 - a) Niosomes
 - b) Ethosomes
 - c) Tinosorbs
 - d) Lipid
- 13) Limitations placed on the penetration of a medicament do not apply to _____.
 - a) Broken (abnormal) skin
 - b) Hydrated skin
 - c) Dry skin
 - d) All the above
- 14) With the increase in degree of unsaturation, the effectiveness of preservative _____.
 - a) increases
 - b) decreases
 - c) remains same
 - d) none of above

- Q.2 A) Answer the following. (Any Four) 08**
- 1) What do you mean by Unit operations? Enlist any 4-unit operations of cosmetic industry.
 - 2) Draw a neat labeled diagram (front view) of double shaft paddle mixer.
 - 3) Comment of Natural penetration enhancers.
 - 4) Discuss 'Water' as penetration enhancer.
 - 5) Give classification of perfume based on % of aromatic compound.
- B) Write notes on. (Any Two) 06**
- 1) Explain the use of silica nanoparticles in cosmetics.
 - 2) Explain the preparation methods of compacts.
 - 3) Outline the process of phase separation and co-aservation method.
- Q.3 A) Answer the following. (Any two) 08**
- 1) Describe classification of humectants and Enlist ideal properties of humectants.
 - 2) Describe Interfacial polymerization.
 - 3) Explain polymeric nanoparticles
- B) Answer the following. (Any one) 06**
- 1) Write down the applications of Cyclodextrin in Cosmetics.
 - 2) Elaborate factors effecting percutaneous absorption.

- Q.4 A) Answer the following. (Any two) 10**
- 1) Write down the composition of perfume and describe notes in perfume.
 - 2) Describe classification of liposomes.
 - 3) Comment on control of microbial contamination in cosmetic manufacturing.
- B) Answer the following. (Any one) 04**
- 1) Write about liposome preparation method by ether injection method.
 - 2) Comment on potentially allergenic substances used as fragrances.
- Q.5 Answer the following. (Any two) 14**
- a) Describe 'Parabens' as controversial ingredients and write down the alternative for same.
 - b) Write a note on metal oxide nanoparticles.
 - c) Explain in detail, the preservation strategies of cosmetic products.

Seat No.	
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Five Years Integrated (M. Tech) (Semester - IX) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Advanced Cosmetic Technology-II (CT3902)

Day & Date: Monday, 17-07-2023
 Time: 11:00 AM To 02:00 PM

Max. Marks: 70

Instructions: 1) All questions are compulsory.
 2) Figures to the right indicates full marks.

Q.1 Multiple choice questions.

14

- 1) _____ polymerization is also called as bead polymerization.
 - a) Bulk
 - b) Emulsion
 - c) Suspension
 - d) None of the above
- 2) _____ is used to increase the viscosity of cuticle remover.
 - a) Hydrocolloids
 - b) Potassium Hydroxide
 - c) Citric Acid
 - d) Sodium Perborate
- 3) _____ liposome has size range of 10-1000 μm .
 - a) Multilamellar
 - b) Giant
 - c) Unilamellar
 - d) Oligolamellar
- 4) Nutracosmetics are emerging class of _____.
 - a) Health
 - b) Beauty product
 - c) Both a and b
 - d) None of the above
- 5) Core material is mainly used in the _____ form.
 - a) Solution
 - b) Dispersion
 - c) Both a and b
 - d) None of the above
- 6) _____ will help to prevent drying of gel polish.
 - a) Cuticle oils
 - b) Cuticle removers
 - c) Nail bleach
 - d) None of the above
- 7) _____ is negatively charged molecule used in the niosomal preparation.
 - a) Diacetyl phosphate
 - b) Stearylamine
 - c) Stearyl pyridinium chloride
 - d) None of the above
- 8) _____ department will convert the concept into a product of new cosmetics.
 - a) Packing
 - b) Production
 - c) Marketing
 - d) R and D
- 9) _____ is added to rigidize the casted film in the preparation of microsphere.
 - a) Plasticizer
 - b) Cross linking agent
 - c) Antitack agent
 - d) Permeability modulators
- 10) _____ is an example of synthetic resin used in the preparation of nail polish.
 - a) Polystyrene
 - b) Polyvinyl acetate
 - c) Both a and b
 - d) Ethyl cellulose

- 11) _____ is the organogel formation temperature, above which the material shows constant viscoelastic properties with temperature decrease.
- a) T_{soi} b) T_{gel}
c) T_{melt} d) T_{form}
- 12) Untreated scratches due to mascara wand cause eye infection, which leads to _____.
- a) Ulcer on the cornea b) Loss of eyelashes
c) Blindness d) All of the above
- 13) _____ is obtained from partial hydrolysis of the collagen, derived from skin, connective tissue of animals.
- a) Dextran b) Starch
c) Gelatin d) Sodium alginate
- 14) _____ is used to prevent settling of the pearlescent pigments in nail polish.
- a) Bismuth oxychloride b) Bentone-34
c) Triethyl citrate d) Amyl formate

Q.2 A) Answer the following. (Any Four) 08

- 1) Define microcapsule and classify them on the basis of their morphology.
- 2) What are cuticle softeners and enlist their function.
- 3) Define and classify noisome.
- 4) What are the benefits of Nutracosmetics?
- 5) Why there is need of microencapsulation

B) Write notes on the following. (Any Two) 06

- 1) Write a note on polycaprolactone.
- 2) Write a note on nail bleach.
- 3) Write a note on skin permeation properties of organogels.

Q.3 A) Answer the following. (Any Two) 08

- 1) Describe the normal polymerization technique for the preparation of microparticles.
- 2) Write down the advantages and disadvantages of liposome.
- 3) Comment on reaction of domestic companies against entry of MNC's in Indian cosmetic market.

B) Answer the following. (Any One) 06

- 1) Explain the procedure of mechanical dispersion methods for preparation of liposome.
- 2) Explain in detail film former used in nail polish.

Q.4 A) Answer the following. (Any Two) 10

- 1) Explain evaluation parameters of microsphere.
- 2) Explain the methods used for the preparation of organogels in cosmetics.
- 3) Explain the steps involved in development of new cosmetics.

B) Answer the following. (Any One) 04

- 1) Distinguish between liposomes and noisome
- 2) Explain cuticle remover.

Q.5 Answer the following. (Any Two) 14

- a) Explain phase separation coacervation technique.
- b) Describe the component of noisome.
- c) Explain the quality control test of nail polish.

Seat No.	
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Set P

**Five Year Integrated M. Tech (Semester - X) (New) (CBCS)
Examination: March/April-2023
COSMETIC TECHNOLOGY
Research Methodology (CT4001)**

Day & Date: Sunday, 16-07-2023
Time: 03:00 PM To 05:00 PM

Max. Marks: 35

Instructions: 1) All questions are compulsory.
2) All questions carry equal marks.

Q.1 Choose the correct answer. (MCQ) 05

- 1) The research design should be clear and match with _____.
 - a) Subject
 - b) Hypothesis
 - c) Objective
 - d) none of the above
- 2) Research helps to _____ corporate policy and strategy.
 - a) Redesign
 - b) Design
 - c) Construct
 - d) Improve
- 3) Sampling method broadly classified into _____ types.
 - a) Three
 - b) Two
 - c) Four
 - d) Five
- 4) In selection of the problem, researcher should consider the following factor _____.
 - a) Research interest
 - b) Topic of significance
 - c) Resource
 - d) All of the above
- 5) In report writing, the statement of research should be write in _____ language.
 - a) Non-technical
 - b) Technical
 - c) Scientific
 - d) None of the above

Q.2 Give the short answer. (Any five) 10

- 1) Define Research.
- 2) Write any two characteristics of good research.
- 3) What is Research design?
- 4) Give the sources of literature.
- 5) Define sampling.
- 6) What is research report?

Q.3 Give the answer. 10

- a) Describe the steps in writing a report.
- b) Explain different types of Research.

Q.4 Give the answer. 10

- a) Explain different types of sampling technique.
- b) Explain types of research report with examples.