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**Five Year Integrated (M. Tech.) (Semester - I) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Cosmetic Chemistry - I (CT101)**

Day & Date: Friday, 05-01-2024
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. 10

- 1) The Limit test is based on _____ measurements of impurity present in the sample.
 - a) Quantitative
 - b) Qualitative
 - c) Both a & b
 - d) None of the above
- 2) In the pH term, 'p' stands for _____.
 - a) Price
 - b) Peak
 - c) Power
 - d) All of the above
- 3) Basic buffer solutions are prepared by mixing _____.
 - a) Weak acid & its salt
 - b) Strong acid & its salt
 - c) Weak base & its salt
 - d) None of the above
- 4) The pH of buffer solution does not change due to the presence of _____ ion.
 - a) Complex
 - b) Salt
 - c) Common
 - d) None of the above
- 5) The air-borne dust particles is the example of _____.
 - a) Microbial contamination
 - b) Packing errors
 - c) Manufacturing defects
 - d) Cross contamination
- 6) The solution which is not prepared from known concentration of reagent is known as _____ solution.
 - a) Primary
 - b) Secondary
 - c) Standard
 - d) All of the above
- 7) Potentiometric method measures the changes in _____.
 - a) Potential
 - b) Volt
 - c) Resistance
 - d) Current
- 8) The non-aqueous titrations yields _____ end point.
 - a) Broad
 - b) Sharp
 - c) Wide
 - d) None of the above
- 9) Tap water contains _____ impurity in very small amount.
 - a) Cl^-
 - b) Al^{3+}
 - c) K^+
 - d) Hg^{2+}

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**Five Year Integrated (M. Tech.) (Semester - I) (CBCS) Examination:
Oct/Nov-2023**

COSMETIC TECHNOLOGY

Fundamentals of Anatomy and Physiology (CT102)

Day & Date: Sunday, 07-01-2024
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) In which of the following type of cells Sarcoplasmic reticulum is found?
 - a) Muscle Cells
 - b) Liver Cells
 - c) Kidney Cells
 - d) Neurons
- 2) Which of the following are phagocytic cells?
 - a) neutrophils
 - b) mast cells, macrophages
 - c) mast cells, antibodies
 - d) neutrophils, macrophages
- 3) Which of the following cell contain a cell wall?
 - a) Plant cell
 - b) Bacteria
 - c) Fungi
 - d) Animal cell
- 4) Which of the following is known as the powerhouse of a cell?
 - a) Mitochondria
 - b) Cytoplasm
 - c) Lysosome
 - d) Nuclei
- 5) Which protein is produced by liver?
 - a) Albumin
 - b) Globulin
 - c) Fibrinogen
 - d) All of the above
- 6) Which of the following comes under loose connective tissue?
 - a) Areolar tissue
 - b) Adipose tissue
 - c) Reticular tissue
 - d) All of the above
- 7) What is the major function of mast cells?
 - a) Produce histamine
 - b) Kills bacteria etc
 - c) Stores triglycerides
 - d) Secrete antibodies
- 8) Which structure is known as the working unit of nervous system?
 - a) Nerves
 - b) Neurons
 - c) Cell body
 - d) Neuralgia
- 9) Which of the following cells are responsible for our skin colour?
 - a) Melanocytes
 - b) Keratinocytes
 - c) Markel cells
 - d) Langerhans cells
- 10) Where does the image of an object formed in eye?
 - a) Sclera
 - b) Cornea
 - c) Choroid
 - d) Retina

- B) Write true and false.** **06**
- 1) Sclera is the outermost part of human eye.
 - 2) Hemoglobin is protein present in blood.
 - 3) 55 percent plasma is present in blood.
 - 4) Nails are necessary part of the skin.
 - 5) RBC play major role in immunity.
 - 6) Heparin is natural clotting factor present in blood.
- Q.2 Answer the following.** **16**
- a) Write the functions of plasma membrane and lysosomes of animal cell.
 - b) Comment on the function of skin.
 - c) Draw a neat-labeled diagram of eye.
 - d) Distinguish between WBC and RBC.
- Q.3 Answer the following.**
- a) What is pigmentation of skin? Write a note on melanin synthesis. **10**
 - b) Comment briefly on sebaceous gland. **06**
- Q.4 Answer the following.**
- a) What is tissue? Give different types of tissue. Comment on nervous tissue. **10**
 - b) What is skin? Give different properties of baby skin. **06**
- Q.5 Answer the following.**
- a) Write a note on structure and function of eye. **08**
 - b) Write a note on RBC **08**
- Q.6 Answer the following.**
- a) What is keratinization? Write down the physiology of keratinization. **10**
 - b) Explain the structure and function of mitochondria. **06**
- Q.7 Answer the following.**
- a) Write a note on epithelial tissue. **08**
 - b) Write a note on nervous tissue. **08**

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Five Year Integrated (M. Tech.) (Semester - I) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Natural Cosmetic Agents – I (CT104)

Day & Date: Tuesday, 09-01-2024
 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) The great Greek physician _____ is known as 'Father of Medicine'.
 a) Hippocrates b) Theophrastus
 c) Seydler d) Aristotle
- 2) _____ is an example of low molecular weight carbohydrate.
 a) Fructose b) Sucrose
 c) Glucose d) All of the above
- 3) _____ is a inner most layer of the pericarp.
 a) Epicarp b) Mesocarp
 c) Endocarp d) None of the above
- 4) Fixed oils are soluble in _____.
 a) Ether b) Benzene
 c) Chloroform d) All of the above
- 5) Sushrutha is called Father of _____.
 a) Indian medicine b) Plastic surgery
 c) Both a and b d) None of the above
- 6) _____ is a fertilized ovule.
 a) Fruit b) Leaf
 c) Seed d) Root
- 7) _____ is an example of pentoses.
 a) Erythrose b) Glucose
 c) Fructose d) Arabinose
- 8) _____ is also known as Ricinus oil.
 a) Linseed oil b) Castor oil
 c) Sesame oil d) Olive oil
- 9) _____ is obtained from the wool of the sheep.
 a) Spermaceti b) Lanolin
 c) Carnauba, wax d) Teel oil
- 10) Herbs that live two seasons and dies are called _____ herbs.
 a) Biennial b) Annual
 c) Perennial d) None of the above

- B) Write True or False:** **06**
- 1) Coconut oil contains salicylic acids which help to reduce dryness and allow your skin to retain moisture.
 - 2) Leaves is organized part.
 - 3) Sucrose on hydrolysis yield glucose and fructose.
 - 4) Several volatile oils are used in perfumery.
 - 5) Fruits developed from a single matured ovary in a single flower is called Aggregate fruits.
 - 6) Galen (131-200 A.D.) is well known for his studies on animal kingdom.
- Q.2 Answer the following.** **16**
- a) Write a note on Benedict's test as an identification test for carbohydrate.
 - b) Distinguish between leaf and leaflet.
 - c) Add a note on chemical classification system of drugs of natural origin along with their merits and demerits.
 - d) Write down the identification test of fixed oil.
- Q.3 Answer the following.**
- a) Explain the Pharmacological classification system of drugs of natural origin along with their merits and demerits. **08**
 - b) Write down the biological source, geographical source, chemical constituents and the uses of Guar gum. **08**
- Q.4 Answer the following.**
- a) Write a note on the following: **08**
 - 1) Mucilage
 - 2) Extracts
 - b) Write down the biological source, geographical source, method of preparation, chemical constituents and the uses of Bees wax. **08**
- Q.5 Answer the following.**
- a) Write down the biological source, geographical source, chemical constituents and the uses of acacia. **08**
 - b) Explain the morphology of stem. **08**
- Q.6 Answer the following.**
- a) Explain the taxonomical and chemical classification system of drugs of natural origin along with their merits and demerits. **08**
 - b) Write down the biological source, geographical source, method of preparation, chemical constituents and the uses of kokum butter. **08**
- Q.7 Answer the following.**
- a) Comment on modification of adventitious roots. **08**
 - b) Write down the biological source, geographical source, method of preparation, chemical constituents and the uses of Arachis oil. **08**

- 8) Write the correct part of speech of the underlined word in the following sentence.

A man is a social animal

- a) noun
- b) adjective
- c) adverb
- d) verb

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

- a) Describe the character of the grandmother in the prose. *The Portrait of a Lady* by Khushwant Singh.
- b) How did the grandmother take the care of Khushwant Singh in the prose *The Portrait of a Lady*?
- c) What advice did the villagers and forest officers give to JadhavPayeng in the prose *JadavPayeng: The Forest Man of India*?
- d) What, according-to Gandhi, make the untouchables-touchable?
- e) What is Majuli in the prose *JadavPayeng: The Forest Man of India*?
- f) What is the relation between economics and religion, according to M.K. Gandhi's American friend Prof. Sam Higginbottom?

Q.3 Answer any two of the following questions. 08

- a) The various qualities discussed by the poet in the poem *Let Me Not Pray to be Sheltered from Dangers*.
- b) The importance of the lotus flower in the poem *The Lotus*.
- c) Significance of the toys in the poem *The Toys*.

Q.4 Answer any two of the following. 08

- a) Write a descriptive essay on a vegetable market.
- b) Write a descriptive essay on the topic 'a memory of someone whom you miss'.
- c) What are the principles of effective communication?

Q.5 Answer any one of the following. 08

- a) What is communication? Explain the communication process in detail.
- b) What are intrapersonal skills? Explain some interpersonal skills with reference to the unit prescribed for your study.

- B) Write true or false.** **06**
- 1) Ethylene glycol is a diol.
 - 2) Keratin is an example of synthetic polymer.
 - 3) The polymer mixture of sulphuric acid and nitric acid is used as nitrating agent.
 - 4) Thermosetting polymer soften on heating & stiffen on cooling.
 - 5) Poise is the unit of viscosity.
 - 6) $[C_nH_{2n+1}OH]$ is the general formula of alcohol.
- Q.2 Answer the following questions.** **16**
- a) Explain in detail the oxidation of ethylene glycol.
 - b) Explain silicon compound in detail.
 - c) Explain the following terms.
 - 1) Polymer
 - 2) Monomer
 - 3) Elastomer
 - 4) Homo & Hetero polymer.
 - d) Explain the fries rearrangement with suitable examples.
- Q.3 Answer the following.**
- a) Explain the classification of Organic & Inorganic polymer in detail. **08**
 - b) Explain Condensation process with neat labelled diagram. **08**
- Q.4 Answer the following**
- a) Explain in detail Surface tension of liquid. **08**
 - b) Explain in detail the mechanism of Reimer-Tiemann reaction. **08**
- Q.5 Answer the following.**
- a) Explain in detail the formation of ethylene glycol by different method & give its uses. **08**
 - b) Explain the classification of polymer based on structure & based on the method of preparation. **08**
- Q.6 Answer the following.**
- a) Explain in detail the uses of glycerol. **08**
 - b) Define Phenol and explain in detail the different reactions of phenol. **08**
- Q.7 Answer the following.**
- a) Explain phosphonitrilic compound in detail. **08**
 - b) Explain the nitration of aromatic compounds with respect to the nitrating agent, generation of nitrenium ion. **08**

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Five Year Integrated (M. Tech.) (Semester - II) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Cosmetic Chemistry (Analytical Methods) - II (CT201)

Day & Date: Friday, 05-01-2024
 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) In electrochemical cell, the movement of electrons takes place from _____ to _____.
 a) Cathode, Anode b) Anode, Cathode
 c) Anode, Anode d) Cathode, Cathode
- 2) _____ equation is used to measure the cell potential.
 a) Gibbs b) Bragg's
 c) Nernst d) Coulombs
- 3) Normally, oxidising agent exist in their _____ oxidation state.
 a) Lowest b) Highest
 c) Zero d) all of the above
- 4) Xylenol orange is used as metal ion indicator for the titration of _____ metal ion.
 a) Cobalt b) Iron
 c) Aluminum d) Sodium
- 5) Metal ion indicator are _____ in water.
 a) Insoluble b) Soluble
 c) Partially soluble d) None of the above
- 6) Ligand acts as _____ in complex formation.
 a) Lewis acid b) Electrophile
 c) Lewis base d) all of the above
- 7) Acid value is number of _____ of KOH required to neutralize free fatty acids.
 a) milligram b) gram
 c) Kilogram d) all of the above
- 8) KCN is the example of _____ agent.
 a) Demasking b) masking
 c) Kilogram d) all of the above

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**Five Year Integrated (M. Tech.) (Semester - II) (New) (CBCS) Examination:
Oct/Nov-2023**

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

Day & Date: Sunday, 07-01-2024
Time: 03:00 AM 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) Bentonite produces _____ colour with safranin solution.
 - a) Deep red
 - b) Deep blue
 - c) Pink
 - d) Green
- 2) Resins are soluble in _____.
 - a) Alcohol
 - b) Volatile oil
 - c) Benzene
 - d) All of the above
- 3) Bahera contain _____% of tannins.
 - a) 40-45
 - b) 20-30
 - c) 25-32
 - d) 7-33
- 4) Melting point range of colophony is between _____°C.
 - a) 39-42
 - b) 30-33
 - c) 75-85
 - d) 62-65
- 5) The colour of calamine is due to _____.
 - a) Zinc oxide
 - b) Aluminium oxide
 - c) Ferric oxide
 - d) None of the above
- 6) _____ is the oleo-gum resin.
 - a) Asafoetida
 - b) Storax
 - c) Benzoin
 - d) Colophony
- 7) Tannins form _____ solution with water.
 - a) Colloidal
 - b) Clear
 - c) Milky
 - d) None of the above
- 8) A drop of phoroglucinol and concentrated hydrochloric acid give _____ stain with lignin.
 - a) Blue
 - b) Pink
 - c) Red
 - d) Green
- 9) Which of the following is ingredient of mineral origin?
 - a) Fuller's Earth
 - b) Mica
 - c) Both a and b
 - d) None of the above
- 10) Which of the following is physical evaluation method to determine the adulteration?
 - a) Moisture content
 - b) Viscosity
 - c) Solubility
 - d) All of the above

- B) Write true /false.** **06**
- 1) Silicate minerals comprise approximately 90% of the earth's crust.
 - 2) Resins are electrically conductive.
 - 3) Tannins are found in bark, wood and fruit skins.
 - 4) Sophistication is the deliberate type of adulteration.
 - 5) The colour of talcum powder is due to aluminium oxide.
 - 6) Colophony contain 0.5% of resenes.

- Q.2 Answer the following.** **16**
- a) Write down the production process of mica by dry ground process.
 - b) Define and classify the resin with suitable example.
 - c) How Goldbeater's skin test is performed. Write down the uses of tannic acid.
 - d) Define the following:
 - 1) Palisade ratio
 - 2) Vein-islet number
 - 3) Stomata number
 - 4) Refractive index

- Q.3 Answer the following.**
- a) Write down the source, preparation, chemical constituents and uses of Kaolin. **08**
 - b) Write down the biological source, preparation, chemical constituents and uses of Benzoin. **08**

- Q.4 Answer the following.**
- a) Write down the biological source, method of preparation and chemical constituents of Black Catechu. **08**
 - b) Explain the methods of adulteration with suitable examples. **08**

- Q.5 Answer the following.**
- a) Write down the preparation, chemical constituents, chemical test and uses of Talc. **08**
 - b) Write down the biological source, preparation, chemical constituents and uses of Balsam of Peru. **08**

- Q.6 Answer the following.**
- a) Write down the biological source, chemical constituents and uses of Amla. **08**
 - b) Explain the chemical evaluation method for detection of adulteration. **08**

- Q.7 Answer the following.**
- a) Write down the biological source, chemical constituents and uses of **08**
 - 1) Ashoka
 - 2) Harde
 - b) Enlist the types of adulteration and write down the reasons for it. Add a note on extractives. **08**

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**Five Year Integrated (M. Tech.) (Semester - II) (New) (CBCS) Examination:
Oct/Nov-2023**

COSMETIC TECHNOLOGY

English (Communication Skill)* (CT203)

Day & Date: Tuesday, 09-01-2024
Time: 03:00 PM To 06:00 PM

Max. Marks: 40

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

Q.1 Multiple Choice question.

08

- 1) In the prose, *The Birth of Khadi* M.K. Gandhi says _____ were circling around the poor villages.

a) sparrows	b) Eagles
c) Crows	d) Vultures
- 2) Jadav's nickname in the prose *Jadav Payeng: The Forest Man of India* was _____.

a) Maloi	b) Moloji
c) Molai	d) Milao
- 3) The grandmother in the prose *The Portrait of a Lady*, by Khushwant Singh, feeds _____ in the village.

a) sparrows	b) Dogs
c) pigeons	d) Cats
- 4) According to the poet, Rabindranath Tagore _____ necessary to win freedom.

a) patience	b) freedom movement
c) rage	d) Battles
- 5) In the poem *The Lotus* _____ won the competition.

a) Rose and Tulips	b) Lily and Daisy
c) Rose and Daisy	d) Rose and Lily
- 6) The son in the poem *The Toys* disobeys his father _____ times.

a) three	b) nine
c) seven	d) eight
- 7) Make the adjective of the noun 'care' by using the suffixes: -al, -ous, -ful, -less etc. The correct option will be _____.

a) careful	b) careless
c) careous	d) careful & careless
- 8) Write the correct part of speech of the underlined word in the following sentence.
Violence is an act of physical force.

a) noun	b) Adjective
c) adverb	d) Verb

- Q.2 Answer the following. (Any Four) 08**
- a) What, according to Gandhi, make the untouchables touchable?
 - b) What is the most deep seated decision in India, according to Gandhi?
 - c) What advice did the villagers and forest officers give to Jadhav Payeng in the prose *Jadav Payeng: The Forest Man of India*?
 - d) What is Majuli in the prose *Jadav Payeng: The Forest Man of India*?
 - e) Comment on the relationship between the grandmother and the author in the prose *The Portrait of a Lady* by Khushwant Singh.
 - f) What did the grandmother in the prose *The Portrait of a Lady* by Khushwant Singh do when the author returned from his studies abroad?
- Q.3 Answer the following questions (Any Two) 08**
- a) Significance of the toys in the poem *The Toys*.
 - b) The importance of the lotus flower in the poem *The Lotus*.
 - c) The various qualities discussed by the poet in the poem *Let Me Not Pray to be Sheltered from Dangers*.
- Q.4 Answer the following questions (Any Two) 08**
- a) Write a descriptive essay on your college.
 - b) Write a descriptive essay on the topic 'a memorable trip'.
 - c) Write a narrative essay on the day you were most disappointed in your life.
- Q.5 Answer the following questions (Any One) 08**
- a) Write a narrative essay on your first day experience at your college.
 - b) What is communication? Explain the communication process in detail.

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**Five Year Integrated (M. Tech.) (Semester - II) (New) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Analytical Chemistry (CT208)**

Day & Date: Thursday, 11-01-2024
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 correct alternatives. (MCQ) 10

- 1) Range of pH scale is _____.
 - a) 7 to 10
 - b) 0 to 10
 - c) 0 to 14
 - d) 7 to 14
- 2) When acids react with metal oxide it produces _____.
 - a) Water and salt
 - b) Salts and hydrogen gas
 - c) Salts only
 - d) No reaction takes place
- 3) Which of the following solution will act as a buffer?
 - a) HNO_2 and NaNO_2
 - b) HCl and KCl
 - c) HNO_3 and NH_4NO_3
 - d) NaOH and NaCl
- 4) Beer's law states that the intensity of light decreases with respect to _____.
 - a) Concentration
 - b) Distance
 - c) Composition
 - d) Volume
- 5) Lambert's law states that the intensity of light decreases with respect to _____.
 - a) Concentration
 - b) Distance
 - c) Composition
 - d) Volume
- 6) Which of the following is not a property or parameter of electromagnetic radiation?
 - a) Wavelength
 - b) Voltage
 - c) Wave number
 - d) Amplitude
- 7) When the salt bridge is removed from a cell, its voltage _____.
 - a) Will increase
 - b) Will decrease to half
 - c) Will decrease to zero
 - d) Will not change
- 8) Electrolytes conduct electric current _____.
 - a) By the movement of ions
 - b) by the movement of atoms
 - c) By the movement of molecules
 - d) by the movement of electrons from the cathode to anode
- 9) Which of the following is not an example of an oxidizing agent.
 - a) Hydrogen peroxide
 - b) Potassium dichromate
 - c) Nitric acid
 - d) Hydrogen sulphide
- 10) p^{H} of natural salt is _____.
 - a) 7
 - b) <7
 - c) >7
 - d) 0

- B) Fill in the blanks.** **06**
- 1) The unit of cell constant is _____.
 - 2) The ratio of the weight of metal actually deposited to that which would have resulted if all the current had been used for deposition is called as _____.
 - 3) Negative logarithm of hydrogen ion concentration is called as _____.
 - 4) _____ is defined as a process of decomposing ionic compounds into their elements by passing a direct electric current through the compound in a fluid form.
 - 5) All electrochemical cells are based on _____.
 - 6) The maximum potential difference between two electrodes of a cell is called as _____ of cell.
- Q.2 Answer the following.** **16**
- a) Explain Beer's-Lambert's law.
 - b) Explain the operational definition of pHmetry.
 - c) Explain the glass electrode in details.
 - d) Explain the types of buffer solutions.
- Q.3 Answer the following.**
- a) Explain the construction, working mechanism of pHmetry with neat labelled diagram. **08**
 - b) Explain in details the photo-electric colorimeter with neat labelled diagram. **08**
- Q.4 Answer the following.**
- a) Explain the significance of standard electrode potential. **08**
 - b) Explain galvanic cell with schematic representation. **08**
- Q.5 Answer the following.**
- a) Write down the advantages and disadvantages of glass electrodes. **08**
 - b) Explain the schematic representation of electro-chemical cell. **08**
- Q.6 Answer the following.**
- a) Write down the various applications of colorimeter and photo-electric colorimeter. **08**
 - b) Explain in detail the important components used in pHmetry. **08**
- Q.7 Answer the following.**
- a) Write down the advantages and disadvantages of pHmetry. **08**
 - b) Explain the instrumentation of colorimetry with neat labelled diagram. **08**

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

COSMETIC TECHNOLOGY

Fundamental Chemistry -II (CT01209)

Day & Date: Tuesday, 09-01-2024
Time: 03:00 PM To 06:00 PM

Max. Marks: 40

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

Q.1 Multiple Choice question.

08

- 1) The carbonyl carbon of aldehyde and ketones is _____ hybridized.

a) SP^3	b) SP
c) SP^2	d) d^2sp^3
- 2) Simple meaning of eutectic point is easy _____.

a) boiling point	b) freezing point
c) melting point	d) all of these
- 3) The transition from liquid phase to gaseous phase is called as _____.

a) Vaporization	b) condensation
c) freezing point	d) melting point
- 4) Aldol condensation will not occur between formaldehyde and _____.

a) benzaldehyde	b) acetaldehyde
c) acetone	d) ethylacetate
- 5) In case of one component system, at triple point, the system is _____.

a) univariant	b) bivariant
c) trivariant	d) non-variant
- 6) It is one kind of force that helps to reduce the surface area of the liquid is called as _____.

a) surface tension	b) optical density
c) optical rotation	d) intermolecular force
- 7) For a system $S_M \rightleftharpoons S_L \rightleftharpoons S_V$ the degree of freedom is _____.

a) One	b) two
c) zero	d) none of these
- 8) When liquid molecule moves from slowest layer to fastest layer it _____ the speed of the molecule.

a) Increases	b) decreases
c) both	d) None of these

- Q.2 Answer the following questions (Any Four) 08**
- a) Explain methods of preparation of alkanes from.
 - i) unsaturated hydrocarbon.
 - ii) alkyl halide
 - b) Explain the nomenclature of ketones.
 - c) Explain the effects of temperature and pressure on viscosity.
 - d) Explain four phases of transition of matter.
 - e) Draw the classification chart of hydrocarbons.
 - f) Explain the dipole moment.
- Q.3 Write Short notes on (Any Two) 08**
- a) Viscosity.
 - b) Pinacol-pinacolone rearrangement.
 - c) Reimer -Tieman reaction.
- Q.4 Answer the following questions (Any Two) 08**
- a) An organic compound contains 32% of carbon and 4% hydrogen and remaining is oxygen then determine the empirical formula of the compound.
 - b) Explain the various methods of preparation of ethylene glycol.
 - c) Explain Mannich reaction in detail.
- Q.5 Answer the following questions (Any One) 08**
- a) Explain one component sulphur system in detail.
 - b) Explain the Intermolecular forces and their impact on the state of matter.

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**Five Year Integrated (M. Tech.) (Semester - II) (Old) (CBCS)
Examination: Oct-Nov-2023
COSMETIC TECHNOLOGY
Natural Cosmetic Agents-II (CT01204)**

Day & Date: Thursday, 11-01-2024
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 Question.

08

- 1) _____ has been traditionally used for separation of components of volatile oils.
 - a) Fractional distillation
 - b) Functional distillation
 - c) Phenolic distillation
 - d) Medicinal distillation
- 2) *Myroxylon balsamum* belongs to _____ Family.
 - a) Ranunculaceae
 - b) Asterraceae
 - c) Leguminosae
 - d) Moraceae
- 3) Benzoin is also called _____.
 - a) Storax
 - b) Guaicum
 - c) Mica
 - d) all the above
- 4) _____ is commonly called as hing.
 - a) Laxative
 - b) Organic compounds
 - c) Asafoetida
 - d) None of the above
- 5) Trichomes are also known as _____.
 - a) Petals
 - b) Bark
 - c) Plant hairs
 - d) Sepals
- 6) _____ is used for extraction of volatile oils and hydrocyanic acid from plant material.
 - a) Steam distillation
 - b) Functional distillation
 - c) Phenolic distillation
 - d) Medicinal distillation
- 7) Ethereal extract of Arjuna shows _____ under ultra-violet light.
 - a) White fluorescence
 - b) pinkish fluorescence
 - c) Golden fluorescence
 - d) Black fluorescence
- 8) Galls contain about _____ of tannic acid and moisture.
 - a) 50-70%
 - b) 90-10%
 - c) 50-50%
 - d) All of the above

Q.2 Answer the following (Any Four)

08

- a) What is Storax used for?
- b) Uses of Black catechu.
- c) What are the Properties of Tannins?
- d) What is Stomata?
- e) Definition of Microscopic evaluation.
- f) Explain the Biological & Geographical sources of Behra.

- Q.3 Write notes on the following (Any Two) 08**
- a) Write a note on methods of Adultration.
 - b) Give the difference between Resin and Balsam.
 - c) Write a note on Calamine.
- Q.4 Answer the following (Any Two) 08**
- a) Explain the Amla with respect to their source Biological, Geographical, Chemical Constituents & its Uses.
 - b) Discribe the Resin with their properties & distribution.
 - c) Explain the Arjun with respect to their source Biological, Geographical, Chemical Constituents & its Uses.
- Q.5 Answer the following (Any One) 08**
- a) Discribe the chemical constituents, chemical test & uses of *Black catechu*.
 - b) Describe the Trichomes & their classification with the structure of Trichomes.

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**Five Year Integrated (M. Tech.) (Semester - III) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Cosmetic Technology-I**

Day & Date: Monday, 18-12-2023
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) Tendency of a particular substance in solution is to reversibly dissociate into ions. It is known as _____.
a) Ionization constant b) Dissolving constant
c) Both a) and b) d) None of these
- 2) Abbe's refractometer do not consist of _____.
a) Telescope b) Eyepiece
c) Graduated scale d) Refracting prism
- 3) Surfactants have hydrophilic head and hydrophobic tail; this property is known as _____.
a) Amphoteric b) Amphiphilic
c) Cationic d) Non-ionic
- 4) HLB value of 0-9 indicates _____.
a) Hydrophilic b) Lipophilic
c) Both a) and b) d) none of above
- 5) The component of solution which is present in large quantity is known as _____.
a) Solvent b) Solute
c) Both a) and b) d) None of above
- 6) Douches are meant for application in _____.
a) Buccal cavity b) Vaginal cavity
c) Rectal cavity d) Nasal cavity
- 7) Emulsion and suspension are example of _____ dosage form.
a) Biphasic b) Monophasic
c) Both a) and b) d) none of above
- 8) Which of the following is Eco-friendly container?
a) Glass b) Bamboo container
c) Plastic d) Metal

- 9) Jars are used as packaging container for _____.
a) Toothpaste b) Oils
c) Deodorant spray d) Creams
- 10) For determination of Refractive Index _____ is used.
a) Rotator b) Electric circuit
c) Refractometer d) Glass slate

B) Write whether true or false. 06

- 1) Two or more molecules those having same molecular formula but have different functional groups are called functional isomers.
- 2) Concentration of surfactant at which micelles first appear in solution is called as CMC.
- 3) Emulsion is example of biphasic dosage form.
- 4) Recycling helps to increase pollution on earth.
- 5) Labels gives information about safety, efficacy, and drug quality.
- 6) Micellization is one of the properties of surfactant.

Q.2 Answer the following. 16

- a) Write a note on liquid instilled into body cavity.
- b) Write a note on Dissociation constant.
- c) Write down applications of RI and optical rotation in pharma/cosmetics.
- d) Explain critical micellar concentration (CMC) along with its diagram.

Q.3 Answer the following.

- a) Write detail note on Eco-friendly packaging material. 08
- b) Write in detail methods of Garbage disposal. 08

Q.4 Answer the following.

- a) Define Stereochemistry. Write detailed note on Optical Rotation. 08
- b) Explain Structural Isomers with examples. 08

Q.5 Answer the following.

- a) Explain structure of Surfactant and give note on HLB scale. 08
- b) Discuss in detail application of Emulsions, Suspension, Liniments, and Lotions. 08

Q.6 Answer the following.

- a) Write classification of Monophasic dosage form and write detailed, note on Syrups. 08
- b) Write principle, construction and working of Abbe's refractometer with its neat, labelled diagram. 08

Q.7 Answer the following.

- a) Explain phenomenon of RI and give note on Pulfrich refractometer. 08
- b) Write note on Precipitation and Complexation for solubility enhancement. 08

Seat No.	
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Five Year Integrated (M. Tech.) (Semester - III) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Unit Operations – I

Day & Date: Wednesday, 20-12-2023
 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. 10

- 1) Studies of a fluid which is at rest is called as _____.
 a) Fluid Dynamics b) Fluid Mechanics
 c) Fluid Statics d) Fluid Kinematics
- 2) Flow of fluid is turbulent when Reynold number is _____.
 a) 1000 b) 2000
 c) Greater than 2000 d) None of these
- 3) With the increase in flow velocity, Reynolds number _____.
 a) Increases b) Decreases
 c) Same d) Independent
- 4) Which of the following works on the principle of impact?
 a) Ball mill b) Roll crusher
 c) Jaw crusher d) Gyratory Mill
- 5) As the size of ball increase, the size of product _____.
 a) Remains same b) Decreases
 c) Increases d) No effect
- 6) The fluid energy mill involves _____.
 a) Pressure b) Temperature
 c) Fluid d) Density
- 7) Size reduction is used to improve the _____.
 a) Physical Stability b) Dissolution Rate
 c) Rate Of Absorption d) All of the above
- 8) The hammer mill operates on the principle of _____.
 a) Impact b) Attrition
 c) Compression d) Cutting
- 9) In sieve shaker, the particles are separated on the basis of _____.
 a) Particle shape b) Particle size
 c) Particle density d) None of these
- 10) Roll crusher acts on the principle of _____.
 a) Compression b) Attrition
 c) Impact d) None of these

- B) Write true or false. 06**
- 1) A simple U-tube manometer can measure negative gauge pressures.
 - 2) Drag force can exist between two layers of liquid.
 - 3) Reynold number has unit.
 - 4) Vapor collected from the mixture is distillate.
 - 5) Partial pressure depend on temperature.
 - 6) Study of fluid behavior in motion is called hydrostatics.
- Q.2 Answer the following. 16**
- a) With a neat labeled diagram, write a note on a simple manometer.
 - b) Write the construction principle and working of the cutter mill.
 - c) Write a note on a shaking screen.
 - d) Give the advantages and limitations of a belt conveyor.
- Q.3 Answer the following. 10**
- a) What is comminution? Describe the mechanism impact and attrition of size reduction with suitable examples of Equipment. 10
 - b) Differentiate the terminology laminar flow and turbulent flow. 06
- Q.4 Answer the following. 10**
- a) What is sieve diameter? Explain the construction, principle and working of a cyclone separator along with its uses. 10
 - b) Write a note on simple distillation. 06
- Q.5 Answer the following. 10**
- a) Write a note on differential manometer and inclined manometer. 10
 - b) Give the advantages and disadvantages of a ball mill. 06
- Q.6 Answer the following. 10**
- a) Derive Bernoulli's equation stating the assumptions. 10
 - b) Define the terms 06
 - 1) Nominal size aperture
 - 2) Nominal diameter of the wire
 - 3) Approximate screen area.
- Q.7 Answer the following. 10**
- a) Name the devices used for transportation of solids. Describe pneumatic Conveyor. 10
 - b) List the advantages and disadvantages of screw conveyor. 06

Set
No.

**Five Year Integrated (M. Tech) (Semester - III) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Biomolecules – I (CT304)**

Day & Date: Thursday, 21-12-2023
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) The simplest amino acid is _____.
 - a) Glycine
 - b) Alanine
 - c) Asparagine
 - d) Tyrosine
- 2) How many amino acids make up a protein _____.
 - a) 10
 - b) 20
 - c) 30
 - d) 50
- 3) Enzymes are polymers of _____.
 - a) Hexose sugar
 - b) Amino acids
 - c) Fatty acids
 - d) Inorganic phosphate
- 4) Amino acids are mostly synthesised from _____.
 - a) fatty acids
 - b) minerals salts
 - c) α –Ketoglutaric acid
 - d) Volatile acids
- 5) An enzyme that joins the ends of two strands of nucleic acid is _____.
 - a) Polymerase
 - b) Ligase
 - c) Synthetase
 - d) Helicase
- 6) Amino acids with aliphatic R gr. are _____.
 - a) Glycine, alanine, leucine
 - b) Serine, Threonine, cysteine
 - c) Lysine, arginine, Histidine
 - d) Phenylalanine, tyrosine, tryptophan
- 7) Peptide bond is a _____.
 - a) Covalent Bond
 - b) Inorganic bond
 - c) Metallic Bond
 - d) Hydrogen bond
- 8) The general mechanism by which an enzyme Acts is by _____.
 - a) Reducing the activation energy
 - b) Increasing the activation energy
 - c) Decreasing the PH value
 - d) Increasing the PH value
- 9) Which of the following is not a fibrous protein?
 - a) Keratin
 - b) Myosin
 - c) Collagen
 - d) Albumin

10) Which of the following essential amino acids is not synthesised by the body?

- a) Arginine
- b) Glutamine
- c) Histidine
- d) Proline

B) Write True or False. 06

- 1) Alanine is non-essential amino acid.
- 2) Globular proteins are having thread like structure.
- 3) Isoleucine is an example of non-polar amino acids.
- 4) Mica is the natural silicates.
- 5) Enzymes are proteins that function as catalyst.
- 6) Proteins are composed of amino acids.

Q.2 Answer the following. 16

- a) Explain Amino acids and the uses of Amino acids in cosmetic technology.
- b) Explain the properties of Enzymes.
- c) Define Clay minerals and Explain the properties of clay minerals.
- d) Define the chemical properties of proteins.

Q.3 Answer the following.

- a) Define amino acids & explain in detail their classification. 08
- b) Define physical properties of protein & explain their uses in cosmetics. 08

Q.4 Answer the following.

- a) Define in detail metallic soaps & explain their uses in cosmetic. 08
- b) What are essential & non-essential amino acids? explain with suitable example. 08

Q.5 Answer the following.

- a) Define the Enzymes & give its classification in detail. 08
- b) Explain in detail synthetic Surfactants. 08

Q.6 Answer the following.

- a) Define synthetic silicate. Explain in detail their properties and applications. 08
- b) Explain in detail the mechanism of Enzymes by Lock and Key model. 08

Q.7 Answer the following.

- a) Define protein & explain their classification in detail. 08
- b) Explain coenzymes in detail and uses in cosmetics. 08

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Set **P**

Five Year Integrated (M. Tech.) (Semester - III) (New) (CBCS)

Examination: Oct/Nov-2023

COSMETIC TECHNOLOGY

Cosmetic Legislations - I (CT310)

Day & Date: Friday, 22-12-2023

Max. Marks: 80

Time: 11:00 AM To 02:00 PM

- Instructions:**
- 1) Q. No.1 and 2 are compulsory.
 - 2) Attempt any Three questions from Q.No.3 to Q.No.7.
 - 3) Draw neat labelled diagrams & give equations wherever necessary.
 - 4) Figures to the right indicate full marks.
 - 5) Use of logarithmic table & calculator is allowed.

Q.1 A) Choose the correct alternative. 10

- 1) If a cosmetic is manufactured under a name which belongs to another cosmetic, it is called as _____.
 - a) Spurious cosmetic
 - b) Adulterated cosmetic
 - c) Misbranded drug
 - d) Misbranded cosmetic
- 2) List of coal tar colours permitted to be used in cosmetics is covered under _____.
 - a) Schedule O
 - b) Schedule P
 - c) Schedule Q
 - d) Schedule R
- 3) Animal welfare board is established by _____.
 - a) State government
 - b) State council
 - c) Central government
 - d) Central council
- 4) Lipstick BIS specification for the number of microbes per gram is _____.
 - a) NMT 60
 - b) NMT 500
 - c) NMT 100
 - d) NMT 1000
- 5) Alcoholic preparations can be stored in a warehouse for a maximum period of _____.
 - a) 3 years
 - b) 7 years
 - c) 4 years
 - d) 5 years
- 6) The substance or preparations used to cleanse, improve or alter the complexion of hair, skin or teeth & include deodorants & perfumes are called as _____.
 - a) Medicinal preparations
 - b) Toilet preparations
 - c) Narcotic preparations
 - d) Psychotropic substances
- 7) In order to obtain license for manufacturing of cosmetics, _____ form has to be submitted.
 - a) 34
 - b) 31
 - c) 20
 - d) 38

- 8) Classes of drugs prohibited to import are _____.
a) Misbranded drugs b) Drugs of substandard quality
c) Adulterated drugs d) All of the above
- 9) Following is the advisory board of India.
a) DTAB b) CDL
c) ADL d) CBL
- 10) Following are the colours permitted to be used in soaps:
a) Citrus red No.2 b) Pigment yellow 3
c) Phthalocyanine blue d) All of the above

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

- 1) Drug inspector is appointed under the section 21 of D & C act.
- 2) Hatch Waxman act is related to over-the-counter medicines.
- 3) The pH of shampoo should be 4 to 9.
- 4) Operations related to narcotic drugs under section 8 are controlled by Central Government.
- 5) Punishment for manufacturing of spurious cosmetic is imprisonment of 5 years with fine.
- 6) Bonded laboratory will require service of excise officer.

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

- a) What are the duties of drug inspector?
- b) Write about classification of medicinal & toilet preparations.
- c) State objectives of prevention of cruelty to animal act.
- d) Give list of dyes, colours and pigments permitted to be used in cosmetics.

Q.3 Answer the following.

- a) Define the following terms.

10

- 1) Spurious cosmetic
- 2) Dutiable goods
- 3) Phooka
- 4) Bonded manufactory
- 5) Cruelty

- b) Explain standard specifications laid down for Beauru of standards (BIS) for shampoo preparations.

06**Q.4 Answer the following.**

- a) Write in detail requirements of plant & equipment for following cosmetic formulations.

10

- 1) Depilatories
- 2) Creams, lotions, emulsion

- b) Explain about constitution & function of DTAB.

06

Q.5 Answer the following.

- a) Solve the following: **10**
- 1) What are the general requirements of factory premises for manufacture of cosmetics?
 - 2) What are the offences & penalties under Drugs & Cosmetics Act 1940?
- b) What are the steps for movement of dutiable goods from bonded to another bonded warehouse? **06**

Q.6 Answer the following.

- a) Solve the following: **10**
- 1) Describe BIS specifications for powdered hair dyes.
 - 2) What is loan license?
- b) State regulatory provisions related to export of duty paid goods. **06**

Q.7 Answer the following.

- a) Solve the following. **10**
- 1) What are the offences & penalties of cruelty to animals.
 - 2) State requirements of factory premises for tooth powders.
- b) Write about constitution & functions of Animal welfare board of India. **06**

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

Day & Date: Monday, 18-12-2023
 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) The phenomenon where particles approach each other closely and form loose aggregates called
 - a) Coalescence
 - b) Flocculation
 - c) Deflocculation
 - d) None of the above
- 2) HLB was developed by: _____.
 - a) Pauster
 - b) Griffin
 - c) Mendel
 - d) Gallen
- 3) Enemas are also called as: _____.
 - a) Elixir
 - b) Suspension
 - c) Emulsion
 - d) Clystric
- 4) Monophasic liquid dosage forms are _____ solutions.
 - a) true
 - b) course
 - c) fine
 - d) micro
- 5) The Nernst distribution law is also known as: _____.
 - a) Raoult's law
 - b) Equilibrium law
 - c) Partition law
 - d) Henry's law
- 6) What type of emulsion is a w/o/w emulsion?
 - a) Primary
 - b) Microemulsion
 - c) Multiple
 - d) Monoemulsion
- 7) Type III glass is also known as: _____.
 - a) Soda lime glass
 - b) General purpose soda lime glass
 - c) Borosilicate glass
 - d) treated soda lime glass
- 8) The test for packaging is _____.
 - a) Drop test
 - b) vibration test
 - c) shock test
 - d) all of the above

Q.2 Answer the following. (Any Four)

08

- a) Write about hydrogen bonding.
- b) Define surfactants and enlist types of surfactants.
- c) Define packaging & enlist materials used for packaging of cosmetics.
- d) What is complexation?
- e) Define specific rotation.
- f) What is elixir dosage form?

- Q.3 Write short notes. (Any Two)** **08**
- a) HLB scale.
 - b) Factors affecting solubility
 - c) Emulsions
- Q.4 Answer the following. (Any Two)** **08**
- a) Write a note on dissociation constant.
 - b) Discuss about strip & blister packaging.
 - c) Give brief note on Suspensions.
- Q.5 Answer the following. (Any One)** **08**
- a) Give a detailed account on environmental hazards due to different packaging materials.
 - b) Write about structure, properties & classification of surface active agents.

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**Five Year Integrated M. Tech. (Semester - III) (Old) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Cosmetic Engineering - I (CT1303)**

Day & Date: Wednesday, 20-12-2023
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) In comparison of Orifice meter and Venturi meter, the venturi meter has advantage over orifice meter because _____.
 - a) Pressure head loss is more in orifice meter as compared to venturi meter.
 - b) Easy to measure the pressure difference.
 - c) "Velocity head" loss is less in orifice meter.
 - d) Diameter of Orifice plate is known hence easy to calculate the velocity of fluid.

- 2) When the value of the Reynolds is less than 2100, the flow is _____.
 - a) Turbulent
 - b) Viscous
 - c) unsteady
 - d) both a and c

- 3) In which conveyor fluidize bed system is used _____.
 - a) screw
 - b) bucket
 - c) pneumatic
 - d) belt

- 4) The joint formed by welding the edges of two parts together is called _____.
 - a) Butt joint
 - b) edge joint
 - c) T - joint
 - d) lap joint

- 5) When, fluid the moving through closed pipe is allowed to pass through a narrow constriction, at point of constriction the fluid has _____.
 - a) High Velocity
 - b) Low Velocity
 - c) Same velocity as entrance point
 - d) none of above

- 6) In case of fittings the losses are mainly due to _____.
 - a) change in pressure
 - b) change in direction
 - c) change in viscosity
 - d) None of above

- 7) Fluid dynamics deals with the study of fluid at _____.
 - a) motion
 - b) rest
 - c) equilibrium
 - d) none of these

- 8) Domestic water supply (Household water supply) can be measured using _____.
 - a) pitot tube
 - b) rotameter
 - c) displacement meter
 - d) orifice meter

- Q.2 Answer any four of the following. 08**
- a) Define pressure head; enlist the different heads present in Bernoulli's theorem.
 - b) Justify, the Reynolds number is dimensionless number.
 - c) Draw neat labelled diagram of Venturi meter.
 - d) What are fluid flow meters? Enlist the types.
 - e) What is conveyer? Enlist classification of conveyers.
 - f) What are the applications of diaphragm pump?
- Q.3 Write short notes on any two of the following. 08**
- a) Welding joint
 - b) Fluid dynamics
 - c) Flanges and expansion joints
- Q.4 Answer any Two of the following: 08**
- a) Explain in detail about Reynolds experiment.
 - b) Explain the loss of energy in fittings.
 - c) Describe the construction of bucket elevator/conveyer.
- Q.5 Answer any one of the following: 08**
- a) What are manometers? Enlist and explain in short regarding different manometers used.
 - b) Describe the construction, working and advantages of belt conveyor system.

- Q.3 Write short notes on any Two of the following. 08**
- a) Explain in detail lock and key model of enzyme.
 - b) Write a note on Zwitterionic and cationic surfactant.
 - c) Write a note on metallic soap and its synthesis.
- Q.4 Answer any two of the following. 08**
- a) Explain in detail the chemical properties of protein and mention there uses in cosmetics.
 - b) Explain in detail the silk powder and toxicity of silicone.
 - c) Write a note on prosthetic group co-enzyme with its function.
- Q.5 Answer any one of the following. 08**
- a) Explain the classification of enzyme based on its reaction.
 - b) Explain the properties and chemistry of silicones.

Seat No.	
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Set P

**Five Years Integrated M. Tech (Semester - III) (Old) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Drugs & Cosmetics Laws - I (CT1308)**

Day & Date: Friday, 22-12-2023
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 diagrams and give equations wherever necessary.
 - 4) Use of logarithmic table and calculator is allowed.

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

- 1) No objection certificate (NOC) from Local Authority of Fire Brigade is obtained to manufacture which cosmetic?
 - a) Face powder
 - b) Nail polish
 - c) Tooth paste
 - d) Lipstick
- 2) The cosmetics used to remove unwanted hair from hands and legs are known as _____.
 - a) Eyelashes
 - b) Toilet soaps
 - c) Aerosols
 - d) Depilatories
- 3) Which of the following is the full form of CPCSEA committee _____.
 - a) Committee for the Purpose of Control & Supervision of Experimentation on Animals
 - b) Council for the Purpose of Control & Supervision of Experimentation on Animals
 - c) Centre for the Purpose of Claiming & Supervision of Experimentation on Animals
 - d) Committee for the Purpose of-Control &- Sacrificing of Experimentation on Animals
- 4) Which section number governs the prohibition of import of cosmetics?
 - a) 12
 - b) 13
 - c) 9
 - d) 10
- 5) A person who does not have his own arrangements to manufacture cosmetics, avails himself the arrangements of other person is known to have which type of license?
 - a) Restricted
 - b) Retail
 - c) Loan
 - d) Wholesale
- 6) A cosmetic is deemed to be spurious if, _____.
 - a) if it contains a colour other than prescribed
 - b) if it is not labelled in the prescribed manner
 - c) if it contains wholly or partly of decomposed substance
 - d) if it is manufactured under a name which belongs to another cosmetic
- 7) How much space in sq mts. Is required for the manufacturing of _____ cosmetics to remove hair on hands, legs or under arms?
 - a) 1000
 - b) 10
 - c) 10000
 - d) 100

- 8) "This product should not be used for dyeing eyebrows as it may lead to blindness", such a caution is printed on which _____ Cosmetic label?
- a) Cream
 - b) Mascara
 - c) Nail polish
 - d) Deodorant

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

- a) Give the list of equipments to manufacture Aerosols.
- b) Define Government analyst.
- c) What is Part I & Part II of Schedule Q?
- d) What is the penalty for manufacturing misbranded or cosmetics not of standard quality?
- e) Write the general labelling conditions on the wrappers of toilet soaps?
- f) Discuss any 2 offences & penalties related to PCA, 1960.

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

- a) How warehousing of alcoholic preparation is done?
- b) Constitution & composition of Drugs Technical Advisory Board.
- c) Distinguish between Non-bonded and Bonded lab.

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

- a) How license is obtained for manufacturing medicinal & toilet preparations, as per MTP, 1955?
- b) Discuss the schedule in relation to the manufacture of cosmetics.
- c) Discuss the plant, space & requirements to manufacture Tooth powders.

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

- a) Discuss the plant, requirements, space to manufacture Eye cosmetics.
- b) Write an exhaustive note on Government analyst w.r.t. definitions, qualification and duties.

Seat No.	
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Set P

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

Day & Date: Monday, 18-12-2023
 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 Choose the correct alternative**08**

- 1) _____ of sodium alginate is used for preparation of jellies.
 - a) 1.5 -2%
 - b) 5%
 - c) 10%
 - d) 20%
- 2) _____ alkalise are used to prepare a cream with fine texture and excellent consistency.
 - a) NaOH
 - b) KOH
 - c) Na₂CO₃
 - d) None
- 3) According to IP, preservative must be effective against _____.
 - a) Gram positive bacteria
 - b) Gram negative bacteria
 - c) Yeast
 - d) All of the above
- 4) Prickly heat powder is an example of _____ powders.
 - a) Body
 - b) Face
 - c) Compact
 - d) Medicated
- 5) _____ wax has extensive importance in cosmetics.
 - a) Ceresin
 - b) Spermaceti
 - c) Both a) and b)
 - d) None of these.
- 6) Melting point of lipsticks should be _____ normal body temperature.
 - a) Less than
 - b) More than
 - c) Equal to
 - d) All of the above
- 7) The HLB system is used to classify _____.
 - a) Flavors
 - b) Colours
 - c) Surfactants
 - d) Perfumes
- 8) Compact powders are commercially manufactured by _____ method.
 - a) Dry
 - b) Wet
 - c) Damp
 - d) Dilution

- Q.2 Answer the following. (Any Four) 08**
- a) Write difference between flocculated and deflocculated suspension.
 - b) Define ointment and classify them.
 - c) Write a note on different methods of preservation of cosmetics.
 - d) Write down the characteristics of powders.
 - e) Define the cosmetic emulsion and enlist their rational in formulation.
 - f) Write short note on gel.
- Q.3 Write short notes. (Any Two) 08**
- a) Discuss in detail ointment bases.
 - b) Write down the formulation of cosmetic powders.
 - c) Write a note on creaming of emulsion and how to solve them.
- Q.4 Answer the following. (Any Two) 08**
- a) Discuss in brief identification of emulsion.
 - b) Define cosmetics. Discuss in detail sources of contamination in cosmetics.
 - c) Define powder, classify them and elaborate evaluation of powders.
- Q.5 Answer the following. (Any One) 08**
- a) Define preservative and classify them. Discuss its methods of effectiveness determination.
 - b) Define disperse system and classify them. Discuss in detail emulsifying agent.

- Q.3 Write Short Note. (Any Two)** **08**
- a) Write a short note on Refractive index.
 - b) Write a short note on Precipitation titration.
 - c) Write a note on standard operating procedure (SOP) of pH meter.
- Q.4 Answer the following. (Any Two)** **08**
- a) Explain following important parameter used in conductometry
 - i) Current source
 - ii) Conductivity meter
 - iii) Electrode
 - b) Write down various application of raman spectroscopy.
 - c) Explain the set-up of polarizer to analyser used in pH metry.
- Q.5 Answer any one of the following.** **08**
- a) Explain the construction, working and applications of conductometry in detail.
 - b) Explain classical principle and quantum principle in raman spectroscopy in detail.

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**Five Year Integrated M. Tech. (Semester- IV) (CBCS) Examination:
Oct/Nov-2023**

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

Day & Date: Wednesday, 20-12-2023
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) In a _____, raw materials are fed into the process at the outset.
 - a) Batch process
 - b) Continuous process
 - c) Semi batch process
 - d) None of above
- 2) Emissivity for black body is _____.
 - a) more than 1
 - b) less than 1
 - c) equal to 1
 - d) None of above
- 3) The expression $Q = \rho AT^4$ is known as _____.
 - a) Fourier equation
 - b) Stefan-Boltzmann equation
 - c) Newton Reichmann equation
 - d) Joseph-Stefan equation
- 4) A body whose absorptivity is constant at all wavelengths of radiation at a given temperature is called _____.
 - a) White body
 - b) Grey Body
 - c) Black Body
 - d) Silver Body
- 5) The main component of Dehumidifier is _____.
 - a) Condenser
 - b) Evaporator
 - c) Compressor
 - d) All the above
- 6) The liquid (e.g., water) only act as heat carrier is known as _____.
 - a) Primary refrigerant
 - b) Secondary Refrigerant
 - c) Tertiary refrigerant
 - d) All the above
- 7) Identify the dimensionless number from following.
 - a) Reynolds Number
 - b) Atomic mass
 - c) Angular displacement
 - d) Abb number
- 8) When the Hot and cold fluid enters in the apparatus from same side such the arrangement is known as _____.
 - a) Parallel flow
 - b) Dynamic Flow
 - c) Counter current flow
 - d) Perpendicular flow

- Q.2 Answer any four of the following.** **08**
- a) Comment on the mechanism of natural convection.
 - b) Define and classify heat exchangers.
 - c) Define sensible heating and sensible cooling.
 - d) If air consists of 77% by weight of nitrogen and 23% by weight of oxygen calculate:
 - 1) The mean molecular weight of air
 - 2) The mole fraction of oxygen(Given values: Molecular Weight: C-12, H-1, O-16, N-14, Cl-35.5, Na-23)
 - e) Draw neat labelled diagram of perfect black body.
 - f) What do you mean by Batch process and continuous process?
- Q.3 Write short notes on any two of the following.** **08**
- a) Explain Storage type of heat exchangers.
 - b) What do you mean by psychometric charts? Draw a psychometric charts containing
 - 1) Constant Dry bulb Temperature.
 - 2) Humidity Ratio.
 - 3) Wet bulb temperature
 - c) What is forced convection and establish equation for rate of heat transfer for same.
- Q.4 Answer any Two of the following.** **08**
- a) What do you mean by Dehumidification? Explain approaches to Dehumidification.
 - b) Write down applications of refrigeration and Consider amixture of Air and Water vapour weights about 80 kg, determine the humidity of the air if there is 1.4 kg of water vapour in the mixture.
 - c) Explain in detail about Scrapped Surface Heat Exchangers.
- Q.5 Answer any one of the following.** **08**
- a) What is conduction? State fouriers law for conduction of heat through metal wall. Describe liquid to Liquid Interchangers in Detail
 - b) What is Air conditioning? Explain Split Air-Conditioning System with diagram. Write down application of Air conditioning.

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**Five Year Integrated (M. Tech.) (Sem-IV) (New) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Cosmetic Chemistry IV (CT1404)**

Day & Date: Thursday, 21-12-2023
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) Lipids are _____ molecule.
 - a) Non-polar
 - b) Polar
 - c) Semi polar
 - d) All of the above
- 2) Saturated fatty acids are _____ while unsaturated fatty acids are _____ at room temperature.
 - a) Solid, liquid
 - b) liquid, solid
 - c) Solid, solid
 - d) liquid, liquid
- 3) A Humectants attracts the _____ from the air.
 - a) Oxygen
 - b) water
 - c) Moisture
 - d) Carbon
- 4) The humectants which does not contain hydroxyl group is known as _____.
 - a) Usual humectants
 - b) Normal humectants
 - c) Abnormal humectants
 - d) Unusual humectants
- 5) The group of vitamins are known as _____.
 - a) Polymer
 - b) Monomer
 - c) Vitamers
 - d) None of the above
- 6) The normal level of 'Ca' & 'P' in blood is maintained by _____.
 - a) Vitamin D
 - b) Vitamin A
 - c) Vitamin C
 - d) Vitamin E
- 7) Chemically, the natural pearls are composed of _____.
 - a) Calcium nitrate
 - b) Calcium, chloride
 - c) Calcium carbonate
 - d) Calcium carbide
- 8) Pearls are soluble in _____.
 - a) Alcohol
 - b) Acid
 - c) Vinegar
 - d) Benzene

Q.2 Answer any four of the following

08

- 1) Define Saponifiable lipid with its example.
- 2) Write down the properties of Waxes
- 3) Write down the uses of Humectants in Cosmetics.
- 4) Define fat soluble vitamins and give their names
- 5) Write down the biochemical reaction of Vitamin E.
- 6) Describe physical properties of Pearl.

- Q.3 Write short notes on any two of the following. 08**
- a) Define and explain the Ion Exchange Resin with its structure and types.
 - b) Explain the uses of Fatty Acids in Cosmetics.
 - c) Define the lipids and explain in detail the structure of lipids.
- Q.4 Answer any two of the following 08**
- a) Give the sources of Vitamin A and explain its metabolic role.
 - b) Explain in detail the recent amendments for water as per IP, BP & USP.
 - c) Explain the Electrolytes as a viscosity modifier.
- 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 production of natural pearls.

- Q.2 Answer the following (Any Four) 08**
- a) Give the objective for The Pharmacy Act, 1948.
 - b) Define Drug and Displaced person.
 - c) Define Central register.
 - d) What is the term of patent?
 - e) Give the scope of Shop Establishment Act.
 - f) Define Establishment.
- Q.3 Write Notes. (Any Two) 08**
- a) Functions of Pharmacy Council of India.
 - b) Constitution & composition of Central Council.
 - c) What types of inventions are non-patentable in India?
- Q.4 Answer the following (Any Two) 08**
- a) Discuss the offences and penalties of The Pharmacy Act, 1948.
 - b) Discuss various forms / documents required while filing a patent application in India?
 - c) What documents are required for registration of a firm as per S&E Act?
- Q.5 Answer the following (Any One) 08**
- a) Discuss the offences & penalties of Shop & Establishment Act.
 - b) What are the various health provisions provided by the factory to the workers as per Factories Act, 1948?

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

**COSMETIC TECHNOLOGY
Perfume - I (CT1501)**

Day & Date: Friday, 05-01-2024
Time: 11:00 AM To 01:00 PM

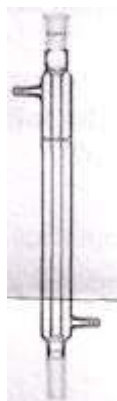
Max. Marks: 40

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 family of Vanilla?
 - a) Rutaceae
 - b) Anacardiaceae
 - c) Rosaceae
 - d) Orchidaceae
- 2) What are the basic taste flavors?
 - a) Salty
 - b) Sweet
 - c) Sour & Bitter
 - d) All of the above
- 3) A chassis is made up of _____.
 - a) Round wooden frame
 - b) Rectangular wooden frame
 - c) Both A & B
 - d) None of the above
- 4) Name the following glassware-



- a) RBF
 - b) Condenser
 - c) Oil Separator
 - d) Boiler
- 5) Essential oils are used for _____.
 - a) Perfumes
 - b) Food Flavouring
 - c) Medicine
 - d) All of the above
 - 6) In which distillation does the plant come into direct contact with boiling water?
 - a) Steam distillation
 - b) Water distillation
 - c) Steam + Hydro distillation
 - d) None of the above
 - 7) What is the ideal consistency of the fat corps?
 - a) Hard surface
 - b) Semi hard surface
 - c) Soft surface
 - d) All of the above
 - 8) In the gummosis process, cellulose decomposition leads to form _____.
 - a) Gums
 - b) Resins
 - c) Gum Resins
 - d) None of the above

- Q.2 Answer any four of the following.** **08**
- a) Define the resin and their properties.
 - b) What are the carrier oils? Give their examples?
 - c) Draw the diagram of Steam distillation unit.
 - d) Draw the diagram of percolator.
 - e) What is ethanol?
 - f) Draw the Flow diagram of water distillation method.
- Q.3 Write short notes on any two of the following.** **08**
- a) What are the properties and uses of Pinene?
 - b) Write a note on Vanilla.
 - c) Define & classify Resins & give the properties of Resins.
- Q.4 Answer any two of the following** **08**
- a) Write the details of Balsam Peru.
 - b) Write the details of Peppermint.
 - c) Explain the extraction procedure by Soxhlet apparatus with neat labelled diagram.
- Q.5 Answer any one of the following.** **08**
- a) Write down details for both Double Maceration and Triple Maceration Process.
 - b) Write a note on steam + water distillation with their advantages and disadvantages.

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

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

Day & Date: Sunday, 07-01-2024
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 only.
3) Figures to the right indicate full marks.
4) Draw neat labelled diagrams whenever necessary.
5) Use of calculator and log table is allowed.

Q.1 Multiple choice questions

08

- 1) _____ are called as sport cream.

a) All-purpose cream	b) Massage cream
c) Cold cream	d) Vanishing cream
- 2) _____ is an example of inorganic humectant.

a) Calcium chloride	b) Sodium lactate
c) Glycerol	d) Sorbitol
- 3) _____ is referred as suicidal antioxidant.

a) Glutathione	b) Alpha lipoic acid
c) Melatonin	d) Selenium
- 4) _____ is a non saponifying alkali used to prepare soap from fatty acid only.

a) Sodium hydroxide	b) Sodium carbonate
c) Potassium hydroxide	d) None of the above
- 5) _____ are water soluble, pulverized minerals.

a) Bath oil	b) Foam bath
c) Bath bombs	d) Bath salts
- 6) Which of the following type of plastic is used for cosmetic container?

a) PP	b) PET
c) Both a and b	d) None of the above
- 7) _____ is also known as sodium hyaluronate.

a) Butylene glycol	b) Propylene glycol
c) Hyaluronic acid	d) Urea
- 8) Antioxidants break up the chains formed during the _____ process.

a) Initiation	b) Propagation
c) Termination	d) None of the above

Q.2 Answer any four of the following

08

- a) Distinguish between cold cream and vanishing cream.
- b) How hygroscopicity is measured explain with example?
- c) Define free radical and write down it's characteristics.
- d) Write down the differences between soaps and detergents.
- e) What are requirements for a good bubble bath?
- f) Why skin becomes dry?

- Q.3 Write short notes on any two of the following.** **08**
- a) Write a short note on Cleansing cream.
 - b) Write a short note on Butylene glycol.
 - c) Write a short note on floating oils.
- Q.4 Answer any two of the following.** **08**
- a) What factors to be considered during selection of antioxidants and write down the procedure for reduced glutathione as in-vivo antioxidant screening method?
 - b) Give the detail account on thickener and miscellaneous additives used in the formulation of foam bath.
 - c) Define the soap and explain the evaluation parameters of soap.
- Q.5 Answer any one of the following.** **08**
- a) Write down the stability and safety of the following:
 - 1) Polyethylene glycol
 - 2) Sorbitol
 - b) Explain in detail syndet.

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

**COSMETIC TECHNOLOGY
Principles of Cosmeceutics – I (CT1503)**

Day & Date: Tuesday, 09-01-2024
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) Decrease in particle size of solid results in _____ solubility.
 - a) Increased
 - b) Decreased
 - c) Remains unchanged
 - d) depends on the crystal structure
- 2) Identify the factor which factors influence solubility.
 - a) Temperature
 - b) Crystal properties
 - c) pH
 - d) All of the above
- 3) Surfactant _____ the interfacial tension between drug particles and liquid.
 - a) Increases
 - b) Decreases
 - c) Has no effect on
 - d) Improves
- 4) Suspending agent are also known as _____.
 - a) Hydrophilic colloids
 - b) Hydrophobic colloids
 - c) Both a and
 - d) None of these
- 5) W/O emulsions is called as _____.
 - a) Aqueous emulsion
 - b) Oily emulsion
 - c) Alcoholic emulsion
 - d) Electrophoresis
- 6) The substances which are added to stabilize the emulsions are called _____.
 - a) Dialyser
 - b) Aggregates
 - c) Emulsifying agent
 - d) Peptizing agent
- 7) Controlled flocculation of particles is obtained by adding _____.
 - a) Flocculating agents
 - b) Suspending agents
 - c) Wetting agents
 - d) All of these
- 8) Increase in temperature causes _____ in surface tension.
 - a) Lowered
 - b) Remains constant
 - c) Increase
 - d) Decreases

Q.2 Answer any four of the following.

08

- a) Write down the limitations of Raoult's law.
- b) What do you mean by Sedimentation volume?
- c) Explain the term saturated and supersaturated solution.
- d) Define phase inversions.
- e) What is emulsion? Give its classification.
- f) What do you mean by Liquefaction of gasses?

- Q.3 Write short notes on any two of the following** **08**
- a) Write a note on stability of suspension.
 - b) What is solute - solvent interaction? Write the mechanism and causes for solute-solvent interaction.
 - c) What is coalescence? Explain factors affecting it.
- Q.4 Answer any two of the following.** **08**
- a) Write a note on HLB scale.
 - b) Explain Critical solution temperature and mention their applications.
 - c) Distinguish between ideal solution and real solution.
- Q.5 Answer any one of the following.** **08**
- a) Define Surface tension. Explain the principle involved in determination of surface tension by capillary rise method. Give its limitations.
 - b) Define suspension. Classify them in detail and write advantages and disadvantages of suspensions.

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

**COSMETIC TECHNOLOGY
Beauty Culture – I (CT1504)**

Day & Date: Thursday, 11-01-2024
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) An overactive sebaceous gland produces _____.
a) Excessive sweating b) Especially foul-smelling sweat
c) Oily skin d) Dry skin
- 2) In beauty therapy which rays are used in radiation?
a) Infrared b) UV rays
c) Blue rays d) Red rays
- 3) In cosmetology what is trained person called?
a) Barber b) Dermatologist
c) Cosmetologist d) Hair dresser
- 4) Where is the thickest layer of skin located on the body?
a) Scalp b) Legs
c) Palms d) Sole of feet
- 5) Which among the following current is used by beautician?
a) Tesla b) Diathermy
c) Oudin d) None of above
- 6) _____ Vitamin is required for the growth of collagen.
a) Vitamin A b) Vitamin C
c) Vitamin E d) Vitamin D
- 7) Warm oil is in hot oil mask therapy because _____.
a) It needed to be melt
b) It gets easily penetrated into skin
c) It is easy to handle
d) All of above
- 8) In which direction wax should be applied?
a) In the direction of hair growth
b) In any direction
c) In opposite direction of hair growth
d) Clients' choice

- Q.2 Answer any four of the following. 08**
- a) Enlist facial ingredients.
 - b) Write the functions of skin.
 - c) Name the tools used for eyebrow shaping.
 - d) What are different hair removal techniques.
 - e) Define essential oil. Give two examples.
 - f) Enlist the steps involved in facial.
- Q.3 Write short notes on any two of the following 08**
- a) What are essential oil? Write extraction methods of essential oil.
 - b) What are skin blemishes? Enlist them.
 - c) Differentiate between face mask & face pack.
- Q.4 Answer any two of the following. 08**
- a) What are the different types of face mask? What precaution should be taken while applying face mask.
 - b) Describe the methods used for identification of skin type.
 - c) Write a note on blending of essential oil.
- Q.5 Answer any one of the following. 08**
- a) What is threading? Write the procedure for eyebrow shaping.
 - b) Write a note on cleansing.

Seat No.	
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Five Year Integrated (M.Tech.) (Semester - V) (New) (CBCS) Examination:
Oct/Nov-2023

COSMETIC TECHNOLOGY

Pharmacology & Interaction – I (CT1509)

Day & Date: Friday, 29-12-2023
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) Identify the factor effecting drug absorption _____.
a) Drug concentration b) Aqueous solubility
c) Vascularity of absorbing surface d) All the above
- 2) Percutaneous absorption of lipid soluble drug is probably through _____.
a) Hair follicle b) Sweat glands
c) Sebaceous gland d) All the above
- 3) In allergic contact dermatitis, sensitizers are picked up by _____.
a) Keratinocytes b) Langerhans cells
c) Erythrocytes d) Osteocytes
- 4) _____ can be administered orally in skin whitening treatment.
a) Glutathione b) Salicylic acid
c) Kojic acid d) Azelaic acid
- 5) Escape or leakage of sweat in stratum corneum is called _____.
a) Miliaria rubra b) Prickly heat
c) Miliarea crystalina d) Miliara profunda
- 6) **Sentence A:** A shampoo with alkaline pH is the best choice for chemically treated hair from either permanent dyeing or permanent waving.
Sentence B: Over use of hair cosmetic may result in contact dermatitis.
a) True; False b) False; True
c) False; False d) True; True
- 7) Halitosis is _____.
a) A malodour due to intrinsic factor.
b) A malodour due to extrinsic factor
c) Both A and B
d) Allergic lesions of mouth cavity.
- 8) _____ is a photosensitizing drug used in treatment of psoriasis
a) Retinoid b) Psorlene
c) Urea d) Salicylic acid

- Q.2 Answer any four of the following. 08**
- a) Define drug absorption and enlist the factors affecting the drug absorption.
 - b) Classify dental desensitizing agents
 - c) Comment on Hair Damage.
 - d) Define -
 - 1) Dermatology and
 - 2) In vivo method
 - e) Explain inflammation with its cardinal signs.
 - f) What do you mean by intrinsic aging?
- Q.3 Write short notes on any two of the following. 08**
- a) What is Miliarea? Describe with its types.
 - b) Explain etiology of acne formation.
 - c) What is Psoriasis explain its types in short.
- Q.4 Answer any Two of the following: 08**
- a) Define dental caries and explain factors responsible for dental caries.
 - b) Write about Tyrosinase Inhibitors.
 - c) Explain combined drug effect. (Drug-drug interaction).
- Q.5 Answer any one of the following: 08**
- a) What is dandruff elaborate factor responsible for it and explain treatment of dandruff.
 - b) What are anti-aging drugs? Write down factors responsible for aging and Explain histological features of skin in aging along with its treatment.

- Q.2 Answer any four of the following.** **08**
- a) Write a note on Top notes.
 - b) How Do You Identify Perfume Notes.
 - c) Define Floral Notes.
 - d) Define Spice Notes.
 - e) Define Nitration & give the examples of Nitrating agents.
- Q.3 Write short notes on any two of the following.** **08**
- a) Write a note on Balsam of Peru.
 - b) Explain the Preparation Benzyl Benzoate with reaction.
 - c) Explain the Preparation Diethyl Phthalate with reaction.
- Q.4 Answer any two of the following.** **08**
- a) Explain the synthesis of Anisaldehyde from anethole via oxidative cleavage.
 - b) Write a note on Ambergris Fixatives.
 - c) Explain the synthesis of Cinnamaldehyde.
- Q.5 Answer any one of following.** **08**
- a) Define Esterification with reaction.
 - b) What are the precautions taken Synthesis of Benzyl benzoates?

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**Five Year Integrated (M. Tech.) (Semester - VI) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Cosmetic Technology IV (CT1602)**

Day & Date: Sunday, 07-01-2024
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 an example of film modifier.
 - a) Dimethicone
 - b) Talc
 - c) Xylitol
 - d) Chitosan
- 2) Polysorbate 60 is an _____.
 - a) Emollient
 - b) Abrasive agent
 - c) Emulsifying agent
 - d) None of the above
- 3) A concentration of _____ % of hydroquinone produces redness and burning sensation.
 - a) 2
 - b) 3
 - c) 1.5
 - d) 5
- 4) Film forming agents are used in the range of _____ % in face packs and masks.
 - a) 10-30
 - b) 40-80
 - c) 2-10
 - d) None of the above
- 5) _____ gives a strong brilliant bluish stain.
 - a) Tetrachloro tetrabromo fluorescein.
 - b) Acid Eosin
 - c) Dibromo-fluorescein
 - d) None of the above
- 6) Metal Stearates are used in concentration between _____ % in the manufacturing of compressed rouge powder.
 - a) 0.2-2
 - b) 3-10
 - c) 0.5-3
 - d) 2-7
- 7) Kohl eyeliner available in _____ form.
 - a) Pencil
 - b) Pressed powder
 - c) Both a and b
 - d) None of the above
- 8) _____ mimic the properties of natural mineral bath or hot springs.
 - a) Foam bath
 - b) Bath salt
 - c) Bath oil
 - d) None of the above

- Q.2 Answer any four of the following:** **08**
- i) How kojic acid gives skin lighten effect.
 - ii) What is laddering defect in lipstick and give reasons of laddering.
 - iii) Why cationic raw materials level should be kept below 3% and why they are incorporated at the end of compounding process in the earth based formulation.
 - iv) What are the reasons for erythema toxicum neonatorum in babies?
 - v) Why water repellent binder is used in compact rouge?
 - vi) Explain the working of detergent in hard water.
- Q.3 Write short notes on any two of the following.** **08**
- i) Write a note on Milia.
 - ii) Write a note on Eyebrow pencil.
 - iii) Write a note on binder used in compact rouge.
- Q.4 Answer any Two of the following:** **08**
- i) Describe hydrocolloid based system of face pack and mask with their formula and preparation.
 - ii) Add a note on emollients in protective creams.
 - iii) Describe the liquid mascara and write down its manufacturing.
- Q.5 Answer any one of the following:** **08**
- i) Explain in detail ingredients of lipsticks.
 - ii) Elaborate the skin lightening agents used in skin lightener formulation.

Seat No.	
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Set P

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

**COSMETIC TECHNOLOGY
Principles of Cosmeceutics – II (CT1603)**

Day & Date: Tuesday, 09-01-2024
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.
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) An example for colloidal system is _____.
 - a) Gas and liquid
 - b) Gas and solid
 - c) Liquid and gas
 - d) Solid and gas
- 2) Solutions of protein and starch in water are the examples of the colloidal type ____
 - a) Gas and water
 - b) Liquid and water
 - c) Solid and water
 - d) Water and solid
- 3) Porosity is expressed in _____.
 - a) Percentage
 - b) Millimeter
 - c) Gram/millimeter
 - d) Newton
- 4) Coulter counter method does not give information regarding the _____.
 - a) Particle volume
 - b) Particle shape
 - c) Particle size
 - d) Both b and c
- 5) The rate of sedimentation of particle is directly proportional to _____.
 - a) Particle size
 - b) Particle shape
 - c) Particle color
 - d) None of the above
- 6) Andreasen apparatus consist of _____.
 - a) Balance
 - b) Electrodes
 - c) Hydrometer
 - d) Pipette
- 7) It is difficult to express the size of particle in a meaningful diameter for the particle having _____.
 - a) Irregular in shape
 - b) Irregular surface
 - c) Spherical shape
 - d) Uniform in size
- 8) Sieving method is used for size distribution analysis of powder. The disadvantage of this method is _____.
 - a) Agglomerates can be identified
 - b) Attrition of powder is possible
 - c) Large number of sieves are required
 - d) Tedious and time consuming

- Q.2 Answer the following (Any Four) 08**
- a) What is micrometrics? Enlist the applications of it?
 - b) What is compressibility index?
 - c) Define Rheology. Give any two applications.
 - d) Explain Bulges with examples.
 - e) Explain the term colloid and mention its applications.
 - f) Define and classify colloids.
- Q.3 Write short notes on (Any Two) 08**
- a) Explain optical properties of colloids.
 - b) Write down the application of the distribution phenomenon.
 - c) Explain Plastic and dilatant flow of liquids.
- Q.4 Answer the following (Any Two) 08**
- a) Enumerate methods to determine the particle size. Explain any two methods to determine the particle size.
 - b) Define angle of repose. Explain the method to determine the same.
 - c) Explain the principle of Ostwald's viscometer.
- Q.5 Answer the following (Any One) 08**
- a) Define Newtonian flow of liquids. Explain the shear thinning system of liquids.
 - b) List different types of densities of powder/granules. Write the experimental method for the determination of any one of them.

Seat
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**Five Year Integrated (M. Tech.) (Sem-VI) (New) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Beauty Culture – II (CT1604)**

Day & Date: Thursday, 11-01-2024
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.
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) An overactive sebaceous gland produces _____.
a) Excessive sweating b) Especially foul smelling sweat
c) Oily skin d) Dry skin
- 2) What is used to give base to the makeup?
a) Lip liner b) Mascara
c) Foundation d) Primer
- 3) In cosmetology what is trained person called?
a) Barber b) Dermatologist
c) Cosmetologist d) Hair Dresser
- 4) Which product is used to set the foundation?
a) Loose powder b) Concealer
c) Compact d) Shimmer Powder
- 5) On which part of the face is eyeshadow used?
a) Eyes b) Checks
c) Lips d) Hands
- 6) How can eye shadow palette be disinfected?
a) Sterilize b) sanitize
c) boil d) Disinfectant
- 7) Which of the following is used to give distinct shape to the eyes?
a) Eyes shadow b) Eye liner
c) Artificial eye lashes d) Eye glitters
- 8) Which is face shape that has similar length and breadth and similar forehead & jawline?
a) Oval b) Rectangular
c) Square d) Round

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

- a) Enlist general hair problem.
- b) Define code of ethics.
- c) Name the tools used for false eyelashes.
- d) Enlist the different types of makeup.
- e) Define contouring.
- f) Enlist the steps involved in hair massage.

- Q.3 Write short notes on (Any Two) 08**
- a) What are contraindications of application of false eyelashes?
 - b) Write about natural & chemical dye.
 - c) Discuss in detail about face shapes.
- Q.4 Answer the following (Any Two) 08**
- a) Discuss the procedure for pedicure.
 - b) Write in detail about code of ethics.
 - c) What are different types of foundation & lipsticks?
- Q.5 Answer the following (Any One) 08**
- a) Write procedure for bridal makeup.
 - b) What are different haircare techniques? Discuss in detail.

Seat No.	
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**Five Year Integrated (M. Tech.) (Semester - VI) (New) (CBCS) Examination:
Oct/Nov-2023**

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

Day & Date: Friday, 29-12-2023
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) In allergic rhinitis _____ only available agent for eye preparation.
 - a) Sodium Chloride
 - b) Oxymethazoline
 - c) Chromphenicol
 - d) Sodium chromoglicate
- 2) Indian standard series of patch allergens (Patch test battery) contain Following allergens EXCEPT.
 - a) Polyethylene glycol
 - b) Potassium dichromate
 - c) Sodium Chloride
 - d) Chinoform
- 3) Identify the heterogonous (nonhuman) proteins responsible for serum sicknesses _____.
 - a) Vaccine
 - b) Immune modulating agents
 - c) Anti-venoms
 - d) All the above
- 4) Identify the correct statement related to patch.

Sentence A: The finn chambers are silver coated tapes.
Sentence B: There is a risk of false positive reactions in people allergic to aluminum.

 - a) Only Sentence A is correct
 - b) Only Sentence B is correct
 - c) Sentence A and Sentence B are correct
 - d) None of above
- 5) _____ is a rapid method to determine the presence of agglutinating antibodies.
 - a) Slide agglutination
 - b) Tube agglutination
 - c) Heterophile agglutination
 - d) Coombs test
- 6) In Guinea pig Maximization test, the test material is injected with _____.
 - a) Coombs reagent
 - b) 21% NaCl solution
 - c) Freund's Complete Adjuvant
 - d) Wood alcohol
- 7) Positive control used in sensitivity of animal stock is/are _____.
 - a) SLS
 - b) Castor oil
 - c) Dinitrofluorobenzene
 - d) Normal Saline solution
- 8) **Sentence A:** IgM involve in ABO system of blood group detection.
Sentence B: IgM have lowest avidity for antigen than IgG.
 - a) False; False
 - b) True; True
 - c) False; True
 - d) True; False

- Q.2 Answer the following (Any four) 08**
- a) Draw neat labeled diagram of Antibody.
 - b) What is complement and write down the purpose of complement Fixation test?
 - c) What do you mean by Photo toxicity and Photo allergy.
 - d) Write down precautions need to be taken during Patch Test.
 - e) What is Morton's Neuroma?
 - f) Write a note on Patches used in Patch Test.
- Q.3 Write short notes the following (Any Two) 08**
- a) Different force involve in Antigen-Antibody interaction.
 - b) Agglutination Inhibition Test.
 - c) Dry Heel Fissure.
- Q.4 Answer the following (Any Two) 08**
- a) Atopic dermatitis: Explain in detail along with treatment.
 - b) Elaborate Photopatch Test.
 - c) Explain procedure for Human Repeat Insult Patch Test
- Q.5 Answer any one of the following 08**
- a) Anaphylaxis: Describe in detail
 - b) Comment on ELISA

Seat No.	
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**Five Year Integrated (M. Tech.) (Semester - VI) (New/Old) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Cosmetic Technology IV (CT3602)**

Day & Date: Sunday, 07-01-2024
Time: 03:00 PM To 06:00 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) Figures to the right indicate full marks.
4) Draw neat labeled diagram wherever necessary.
5) Use of logarithmic tables and calculator is allowed.

Q.1 Select most correct alternative for the following questions

14

- 1) _____ are left over pieces of soap in soap production.
 - a) Soap chips
 - b) Floating soaps
 - c) Medicated soaps
 - d) Toilet soaps
- 2) Natural rubber latex masks on drying form a _____ film.
 - a) Continuous
 - b) Elastic
 - c) Water-impermeable
 - d) All of the above
- 3) _____ is characterized by pink discoloration on the hand and feet.
 - a) Photophobia
 - b) Acrodynia
 - c) Polyneuritis
 - d) None of the above
- 4) Barrier cream prevent incidences of _____.
 - a) Redness
 - b) Irritation
 - c) Dryness
 - d) All of the above
- 5) _____ is also used to modify the basic shade of the pigment in lipsticks.
 - a) Titanium dioxide
 - b) Propyl gallate
 - c) Lecithins
 - d) Wool fat
- 6) _____ adjust volume of pigment in liquid eyeliners.
 - a) Magnesium carbonate
 - b) Magnesium aluminium silicate
 - c) Both a and b
 - d) Diethylene glycol monostearate
- 7) _____ can be added to avoid settling of pigments in lotion type of cream mascara.
 - a) Polyvinyl acetate
 - b) Bentonite
 - c) Carbon black
 - d) None of the above
- 8) Isopropyl myristate act as _____ in rouge preparation.
 - a) Emulsifying agent
 - b) Emollient
 - c) Liquid binder
 - d) Absorbent
- 9) _____ based products are known as peelable face mask.
 - a) Vinyl
 - b) Wax
 - c) Clay
 - d) Hydrocolloid

- b) Answer the following. (Any One)** **04**
- i) Distinguish between colloid, solution and suspension.
 - ii) Enlist properties of colloid. Discuss in detail molecular weight determination of polymer from optical properties.

- Q.5 Answer the following. (Any two)** **14**
- a)** Classify the liquids according to flow behaviour. Discuss in detail non-Newtonian flow with suitable examples.
 - b)** Define colloid and classify them. Discuss in detail preparation methods of colloids.
 - c)** Enlist properties of powder. Add a note on derived properties. Explain in detail determination of flow of powder.

Seat No.	
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**Five Years Integrated (M. Tech.) (Semester - VI) (New/Old) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY**

Pharmacology and Interaction – II (CT3610)

Day & Date: Friday, 29-12-2023
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) The intermolecular force which operate between antigen and antibody is/ are
 - a) Electrostatic forces
 - b) Hydrogen bonding
 - c) Hydrophobic bonding
 - d) All the above
- 2) In allergic rhinitis _____ is only available agent for eye preparation.
 - a) Sodium Chloride
 - b) Oxymethazoline
 - c) Chromphenicol
 - d) Sodium chromiglicate
- 3) Find the correct sequence of Ag-Ab reaction.

Sr. No.	Stages
1)	Formation of visible events like precipitation, agglutination.
2)	Leads to destruction of Ag or its neutralization.
3)	Involves formation of Ag-Ab complex.

- a) First stage- Sr. no.2; Second Stage-Sr. no. 1; Third stage-Sr.no.3
 - b) First stage- Sr. no.3; Second Stage-Sr. no. 1; Thirdstage-Sr.no.2
 - c) First stage- Sr. no.1; Second Stage-Sr. no.2; Thirdstage-Sr.no.3
 - d) None of above
- 4) Two heavy chains of each antibody entity are connected covalently by _____
 - a) disulfide bonds
 - b) Hydrophobic force
 - c) Hydrogen Bond
 - d) Peptide linkage
 - 5) First step pain is associated with _____.
 - a) Plantar fasciitis
 - b) Morton's Neuroma
 - c) Hallux valgus
 - d) None of above
 - 6) Identify the correct statement related to patch, which is used in patch test.

Sentence A: The finn chambers are made up of aluminum.

Sentence B: There is a risk of false positive reactions in people allergic to aluminum

 - a) Only Sentence A is correct
 - b) Only Sentence B is correct
 - c) Sentence A and Sentence B 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

B) Answer the following. (Any One) 06

- 1) Explain Coombs Test
- 2) Atopic dermatitis: Explain in detail along with treatment.

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

- 1) Write a note on early type of home pregnancy test kit /agglutination inhibition.
- 2) Write in detail about Skin Irritation Test.
- 3) Summaries different antibody present in Human.

B) Answer the following. (Any One) 04

- 1) Write a note on Immunofluorescence.
- 2) Explain Slide agglutination reaction.

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

- a) What is Allergy? Explain in Detail about Allergic rhinitis.
- b) Explain in detail Human Repeat Insult Patch Test HRIPT.
- c) Explain photosensitive eczema.

Seat No.	
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Five Years Integrated M. Tech (Semester - VII) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Perfumes & Colours

Day & Date: Monday, 18-12-2023
 Time: 11:00 AM To 01:00 PM

Max. Marks: 40

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

Q.1 Multiple choice questions.

08

- 1) Which of the following is inorganic type of humectant?
 - a) Calcium chloride
 - b) Sodium lactate
 - c) Glycerol
 - d) Ethylene glycol
- 2) Which of the following factor is responsible for soap perfuming to reduce time & effort in production?
 - a) Psychological factors
 - b) Technical factors
 - c) Chemical factors
 - d) All of the above
- 3) The hardness of cologne stick is determined by the quantity of _____.
 - a) Sodium Lauryl sulphate
 - b) Stearic acid
 - c) Palmitic acid
 - d) Sodium stearate
- 4) Which of the following herb comes under family Leguminosae?
 - a) Orris
 - b) Jasmine
 - c) Muguet
 - d) Acacia
- 5) The higher _____ content yield more transparent stick.
 - a) Stearic acid
 - b) Palmitic acid
 - c) Propylene glycol
 - d) Cetyl alcohol
- 6) Which of the following agents are used to prevent spoilage in cosmetic products?
 - a) Colours
 - b) Flavours
 - c) Preservatives
 - d) Humectants
- 7) The linalool is the active ingredients of the following herbs.
 - a) Lavender
 - b) Rose
 - c) Violet
 - d) Orris
- 8) Which of the following groups of organic compounds are least likely to be used in making perfumes?
 - a) Alcoholic
 - b) Carboxylic acids
 - c) Esters
 - d) Aldehydes

- Q.2 Answer the following (Any Four) 08**
- a) Define emulsified perfumes with examples.
 - b) Write the biological source and chemical composition of mudgnet.
 - c) Give examples of perfumes incorporated in shampoo.
 - d) What are the factors affecting adaptation of perfumes in soap formulations?
 - e) Define toilet waters.
 - f) What is cologne?
- Q.3 Answer the following. (Any Two) 08**
- a) Write a short note on solubilized fragrances with any one formulation.
 - b) Give details of perfuming skin creams & lotions.
 - c) Write a biological source, properties and chemical composition of cassie and narcissus.
- Q.4 Answer the following. (Any Two) 08**
- a) What is adaptation of perfumes in nail polishes?
 - b) Write a short note on mineral water essences.
 - c) Write a Source, properties and composition of orris and jasmine.
- Q.5 Answer the following. (Any One) 08**
- a) Explain the methods to formulate perfume from acacia, Amber, lilac. Write their source, properties and chemical composition.
 - b) Give detailed account on incorporation of perfumes/ colours/ flavours in lipsticks & other lip preparations.

Seat No.	
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**Five Year Integrated M. Tech. (Semester - VII) (New) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Cosmetic Technology - V**

Day & Date: Tuesday, 19-12-2023
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 & given equations wherever necessary.
4) Use of logarithmic table & calculator is allowed.

Q.1 Multiple Choice Question.

08

- 1) Rinse-through finishing rinse are useful for:
 - a) Deep conditioning
 - b) Improving the quality of new hair growth
 - c) Protection against breakage
 - d) Detangling hair after washing
- 2) Indigo is obtained from _____.
 - a) Banana
 - b) Neem
 - c) Mango
 - d) Peach
- 3) One of the important techniques to make pin curl _____.
 - a) Tying with ribbon
 - b) Shaping
 - c) Pulling
 - d) Squeezing
- 4) The main active ingredient or reducing agent in alkaline perm is _____.
 - a) Hydrogen peroxide
 - b) Ammonium thioglycolate
 - c) Sodium hydroxide
 - d) Ammonium bromide
- 5) What type of ingredient is added to shampoos to provide a color-protecting effect?
 - a) Silicone
 - b) UV filters
 - c) Vitamin E
 - d) Essential oils
- 6) Application of colour over previously colored hair to refresh the colour is referred to as _____.
 - a) Colour glazing
 - b) Alkaline perm
 - c) Regrowth
 - d) Rebound
- 7) The cuticle of hair is the outermost layer & it is made up of:
 - a) Protective oils
 - b) Overlapping scales
 - c) Long strands
 - d) Melanin scales
- 8) Surfactant molecules work by:
 - a) Lifting off oils, dirt into the water
 - b) Raising the pH of hair
 - c) Separating oil & water
 - d) Deionizing Water

- Q.2 Answer any four of the following:** **08**
- a) Define hair dyes & enlist types of hair dyes.
 - b) What is aerosol shampoo?
 - c) What are glossers in hair conditioners?
 - d) Define cold waving & hot waving.
 - e) Write about quality control of conditioners.
 - f) Give a formula for solid brilliantine.
- Q.3 Write short notes on any two of the following.** **08**
- a) Vegetable hair dyes
 - b) Hair straighteners
 - c) Classification of shampoos
- Q.4 Answer any Two of the following:** **08**
- a) Write a note on hair thickeners.
 - b) Write about health hazards associated with para-dyes and their testing.
 - c) Write in detail formulation of medicated hair tonic.
- Q.5 Answer any one of the following:** **08**
- a) Discuss factors influencing colour fading & removal of colour from hairs.
 - b) Discuss formulation, preparation methods & quality control tests for shampoos.

Seat No.	
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**Five Year Integrated M. Tech. (Semester- VII) (New) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Quality Assurance Techniques**

Day & Date: Wednesday, 20-12-2023
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 Multiple choice questions.

08

- 1) _____ is supporting document for the preparation of DQ.

a) PQ	b) IQ
c) OQ	d) URS
- 2) In Gel filtration technique the separation is based on the difference of _____ of the components.

a) Molecular size	b) Polarity
c) Solubility	d) Physical constants
- 3) _____ is recognized standard for outdoor daylight source for photostability testing.

a) D65	b) ID65
c) Both a and b	d) None of the above
- 4) The foaming power in ml for tooth paste is min. _____ as per BIS.

a) 150	b) 50
c) 200	d) None of the above
- 5) _____ is concerned with testing and specification.

a) Quality Assurance	b) Quality Control
c) Production	d) Packing
- 6) NMR spectroscopy is based on the absorption of electromagnetic radiation in _____ region.

a) IR	b) UV
c) Radio frequency	d) Microwave
- 7) _____ is recommended storage condition for the retest period or shelf life proposed for labelling.

a) Accelerated testing	b) Long term testing
c) Intermediate testing	d) None of the above
- 8) Total fatty substance content for skin cream in percent by mass is min. _____ as per BIS.

a) 5	b) 20
c) 10	d) 2

- Q.2 Answer any four of the following. 08**
- a) Why three consecutive batches are taken for process validation? Why not two and four batches?
 - b) What is the role of radiofrequency transmitter in NMR spectrometer?
 - c) Write down the storage conditions that should be prominently indicated on the label after completion of stability.
 - d) Write down the procedure for spectrophotometric evaluation of sunscreen preparation.
 - e) Define validation as per USFDA and WHO.
 - f) Give the application of IR spectroscopy.
- Q.3 Write short notes on any two of the following. 08**
- a) Write a short note on Change control.
 - b) Write a short note on Mass spectroscopy.
 - c) Write a short note on test for heavy metals of face wash as per BIS.
- Q.4 Answer any Two of the following. 08**
- a) Explain bracketing and matrixing design for stability testing of products with suitable example.
 - b) Explain different sample injection methods used in Gas chromatography.
 - c) Describe the evaluation parameter of lipsticks.
- Q.5 Answer any one of the following. 08**
- a) Explain in detail the procedure for addressing of deviation.
 - b) What are the test conditions and frequency of testing as per WHO for stability testing of product.

Seat No.	
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**Five Years Integrated (M. Tech) (Semester - VII) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Herbal Cosmetics-I (CT1704)**

Day & Date: Thursday, 21-12-2023
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 wherever necessary.
3) Figures to the right indicate full marks.
4) Use of a logarithmic table and calculator is allowed.

Q.1 Multiple choice questions.

08

- 1) Kapur kachari belongs to the family.
 - a) Liliaceae
 - b) Umbeliferaceae
 - c) Zingiberaceae
 - d) Lamiaceae
- 2) Acaccia Concinna linn is the botanical name of _____.
 - a) Henna
 - b) Shikkeikai
 - c) Reetha
 - d) Jatamansi
- 3) Photo protective property of Cucumber is due to the _____.
 - a) Mycosporine like amino acid
 - b) Tripertene Glycoside
 - c) Fucoidan
 - d) All
- 4) _____ is also called wound hormone.
 - a) Aloe Vera
 - b) Neem
 - c) Babul
 - d) Henna
- 5) GMP means _____.
 - a) Good Manufacturing Procedure
 - b) Good Manufacturing Practices
 - c) Good Manufacturing Personal
 - d) None
- 6) "Kumari" is a common name for _____.
 - a) Aloe
 - b) Rhubarb
 - c) Senna pod
 - d) None
- 7) Ionic liquid is also known as _____.
 - a) Green solvent
 - b) Red solvent
 - c) Yellow solvent
 - d) Ideal solvent
- 8) Gentle heat applied during the maceration extraction is known as _____.
 - a) Decoction
 - b) Maceration
 - c) Distillation
 - d) Digestion

Q.2 Answer the following (Any Four)

08

- 1) Define and classify extraction techniques.
- 2) Define herbal cosmetics and write its advantages.
- 3) Write a cosmetic use of ambahaldi.
- 4) Define.
 - i) Ash value
 - ii) Volatile Matter
- 5) Enlist the different methods of sterilization of raw herbs.
- 6) Write down the steps involved in proper storage of raw herbs.

- Q.3 Answer the following. (Any Two) 08**
- 1) Write a short note on the importance of size reduction in extraction.
 - 2) Write a short note on Role of herbal ingredients in hair care.
 - 3) Explain Critical solution temperature and mention their applications.
- Q.4 Answer the following. (Any Two) 08**
- 1) What are the details required on the label of raw herb?
 - 2) Write a method of extraction of tannins.
 - 3) Write biological source, geographical source and uses of Shikkekai.
- Q.5 Answer the following. (Any One) 08**
- 1) Write pharmacognostic scheme of Nagarmotha.
 - 2) Write the biological source, chemical constituent and uses of
 - i) Chandan
 - ii) Neem

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No.

Five Years Integrated M. Tech. (Semester - VII) (New) (CBCS)

Examination: Oct/Nov-2023

COSMETIC TECHNOLOGY

Material Management & Inventory Control (CT1709)

Day & Date: Friday, 22-12-2023
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) Safety stock + EOQ = _____.
 - a) Average inventory
 - b) Normal maximum inventory
 - c) Absolute maximum inventory
 - d) Minimum inventory to run the business
- 2) Identify the different word from given group below.
Nail Paint, Wax, SLS, Ethanol
 - a) Nail Paint
 - b) Wax
 - c) SLS
 - d) Ethanol
- 3) In FIFO method, during high fluctuating cost period the comparison between batches become _____.
 - a) Predictable
 - b) Meaningless
 - c) Valuable
 - d) None of above
- 4) Identify the factor considered while calculating the standard cost method.
 - a) Market condition
 - b) Loss on storage
 - c) Usage rate
 - d) All the above
- 5) For proprietary items _____ system is used.
 - a) Blanket order
 - b) Rate contract
 - c) Single tender
 - d) Open tender
- 6) Trade discount is _____ from purchase price, if it is not shown as deducted in the invoice.
 - a) deducted
 - b) added
 - c) excluded
 - d) credited in buyers account
- 7) Following are the elements of JIT, except.
 - a) Simplification
 - b) Product oriented layout
 - c) Attacking fundamental problem
 - d) Eliminating waste
- 8) _____ uses brainstorming session to generate ideas and solve the problem.
 - a) Time series forecasting
 - b) Delphi Technique
 - c) Subjective approach
 - d) Scenario writing

- Q.2 Answer any four of the following. 08**
- a) What is Material management, elaborate its scope.
 - b) Enlist MRP inputs.
 - c) What do you mean by
 - i) Purchase Order
 - ii) Blanket Order
 - d) Give format for Material Received Note.
 - e) Explain holding cost.
 - f) What is simple average price method?
- Q.3 Write short note on any two of the following. 08**
- a) Factors considered while selecting supplier and state material inspection methods.
 - b) Enlist modern techniques of Inventory control. Explain reorder point.
 - c) LIFO
- Q.4 Answer any two of the following. 08**
- a) Define and give objectives of Inventory control. Write in short about two bin system.
 - b) What is indent? Explain Tender system.
 - c) What do you mean by '3S' activity? Define material planning along with factors effecting on it.
- Q.5 Answer any one of the following.**
- a) Explain purchase cycle in detail. **08**
 - b) i) What is HML classification? **02**
ii) How will you determine EOQ in Industry? **06**

Seat No.	
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Five Years Integrated M. Tech (Semester - VII) (Old) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Perfumes & Colours (CT3701)

Day & Date: Monday, 18-12-2023
 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) What is the proportion of perfume for Baby powder?
 - a) 0.2 %
 - b) 6%
 - c) 2.0 %
 - d) 3.0%
- 2) After drying the nail lacquer, film formed on nails is _____.
 - a) Odorless
 - b) Acetone like smell
 - c) Objectionable odor
 - d) None of the above
- 3) The reaction between flavouring chemicals and thioglycolate in hair cosmetics releases the _____.
 - a) Strong odor
 - b) Objectionable odor
 - c) Sulphurous odor
 - d) None the above
- 4) Shampoos should have some _____.
 - a) Flowery odor
 - b) Strong odor
 - c) Pleasant odor
 - d) All of the above
- 5) What are the medicinal uses of Kewda Rhoo?
 - a) diabetes
 - b) fever
 - c) joint pain
 - d) All of the above
- 6) What is the family of Narcissus flower?
 - a) Amaryllidaceae
 - b) Oleaceae
 - c) Violaceae
 - d) Rosaceae
- 7) Sources of Acacia are-
 - a) India
 - b) USA
 - c) South China
 - d) Both A & C
- 8) Why spent flowers are discarded in making of perfumes from Lilac flowers?
 - a) Bad smell
 - b) low concentration of essential oil
 - c) High concentration of essential oil
 - d) None of the above
- 9) Lily of the valley flower is also called as -
 - a) Muguet
 - b) Lilac
 - c) Acacia
 - d) Narcissus
- 10) Orris essential oil is extracted from the _____.
 - a) Roots
 - b) Stems
 - c) Leaves
 - d) Twigs

- 11) Violet flowers essential oil contains _____.
 - a) Vitamin B1
 - b) Vitamin C
 - c) Vitamin D
 - d) None of the Above
- 12) _____ must leave behind an attractive aura on the dried hair.
 - a) Shampoo
 - b) Conditioner
 - c) Lotion
 - d) None of the above
- 13) Basic condition is _____ for Hair perfumery preparations
 - a) Suitable
 - b) Unsuitable
 - c) Good
 - d) None of the above
- 14) _____ procedures can be used to make alcoholic fragrance.
 - a) Regular
 - b) Split- process
 - c) Diminished — solvent
 - d) All of the above

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

- 1) Why is there alcohol in perfumes?
- 2) What are the properties of Jasmine?
- 3) Define Solid perfumes.
- 4) What are the herbal actions of Violet flowers?
- 5) Define Adaption and Incorporation.

b) Write Notes (Any Two) 06

- 1) Define Solubilizer and its industrial applications.
- 2) Explain in detail about perfumed products.
- 3) What are the geographical sources & chemical composition of Narcissus?

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

- 1) Write a note about the preparation of the alcoholic fragrance solution through the 'Diminished- solvent-process method'.
- 2) How to extract essential oil from Carnation flower.
- 3) What are the factors that influence soap perfuming?

b) Answer the following. (Any One) 06

- 1) What are the chemical components of Orris and Muguet?
- 2) What are the ideal properties of Cleansing Cream?

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

- 1) Explain the extraction process of Kewda rooh through flow chart
- 2) Write in detail about Jasmine flower.
- 3) Define and classify an alcoholic perfume solution and elaborate on their processes.

b) Answer the following. (Any One) 04

- 1) Write a note on perfuming Lipstick and Nail lacquer.
- 2) Explain the preparation of hair perfumes.

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

- 1) Write a note on
 - i) Lilac
 - ii) Acacia
- 2) What are the important uses of
 - i) Rose
 - ii) Violet
 - iii) Lavender
- 3) Define and classify perfumed products and explain the solid perfumes.

Seat
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**Five Years Integrated M. Tech (Semester - VII) (Old) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Cosmetic Technology - V (CT3702)**

Day & Date: Tuesday, 19-12-2023
Time: 11:00 AM To 02:00 PM

Max. Marks: 70

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

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

- 1) Following is the benefit of henna, except:
 - a) Balances pH & oil production
 - b) It acts as a moisturizers
 - c) Can help to prevent dandruff
 - d) Help to remove split ends
- 2) Neutralization rebuilds the _____ by removing extra hydrogen bonds created by waving lotion.
 - a) Salt bonds
 - b) Disulfide bonds
 - c) Polypeptide chains
 - d) All of the above
- 3) The basic perm wrap is also called as:
 - a) Strait set
 - b) Bricklay perm
 - c) Weave technique
 - d) None of the above
- 4) The degree to which hair absorbs waving lotion is related to:
 - a) Porosity
 - b) Texture
 - c) Length
 - d) Colour
- 5) Cetyl alcohol is used as _____ in shampoos.
 - a) viscofier
 - b) sequesterant
 - c) clarifier
 - d) opacifier
- 6) Following are the surfactants used in baby shampoos, except:
 - a) Sulphosuccinates
 - b) Cocamidopropyl betaine
 - c) PEG 80 & sorbitan nitrate
 - d) Alpha olefin sulphonated
- 7) Hair rinses are classified as:
 - a) Permanent hair colours
 - b) Semipermanent hair dyes
 - c) Hair straighteners
 - d) Hair waving preparations
- 8) The length of time required for hair strands to absorb the waving lotion & recurl is called:
 - a) Processing time
 - b) Rinsing time
 - c) Development time
 - d) None of the above
- 9) Zinc pyrithine in shampoo is used as:
 - a) Conditioner
 - b) Cleanser
 - c) Antidandruff
 - d) Detergents

- 10) The purpose of conditioning agent in shampoo is:
 a) to cause brittleness to hair b) to provide moisture to hair
 c) to bring moisture to skin d) to cause greasiness
- 11) _____ % of perfume is incorporated into shampoos.
 a) 2-3% b) 0.3-1 %
 c) 10-20 % d) 4-5 %
- 12) Rinse- through finishing rinses are useful for:
 a) Deep conditioning b) Improving quality of new hair
 c) Protection against breakage d) Detangling hair after washing
- 13) The cuticle of hair is outermost layer, made up of:
 a) Protective oils b) Overlapping scales
 c) Long strands d) Melanin scales
- 14) Instant conditioners having pH range of 3.5 to 6 are used to:
 a) Restore pH balance b) Remove oil accumulation
 c) Add a slight amount d) Improve scalp condition

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

- 1) Define cold waving & hot waving.
- 2) Define & enlist types of hair dye.
- 3) What is hair fixative gel?
- 4) What is mousse preparation?
- 5) Give ideal properties of shampoo.
- 6) Give a formula for hair tonic.

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

- 1) Bleaching of hair
- 2) Evaluation of hair setting preparations
- 3) Process of hair coloring

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

- 1) Write a note on non-pressurized styling products.
- 2) Write about brilliantines & mouse preparations.
- 3) Discuss hair thickeners.

B) Answer the following. (Any One) 06

- 1) Discuss about materials used in hair tonics.
- 2) Write about hair rinses.

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

- 1) Write a note on vegetable dyes.
- 2) Discuss factors affecting colour fading.
- 3) Write about principle and auxiliary surfactants in shampoo.

B) Answer the following. (Any One) 04

- 1) Discuss off-scalp techniques of hair dyeing.
- 2) Write evaluation of hair conditioners.

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

- a) Write about hair waving methods and their evaluation.
- b) Write in detail about ideal properties, classification & quality control of shampoos.
- c) Discuss about hair styling products.

Seat
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**Five Year Integrated M. Tech. (Semester- VII) (Old) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Quality Assurance Techniques (CT3703)**

Day & Date: Wednesday, 20-12-2023
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 Choose the correct alternative from the following options.**14**

- 1) Perform _____ after the production process.
 - a) Quality Control
 - b) Quality Planning
 - c) Quality Assurance
 - d) None of the above
- 2) Mostly the columns used in HPLC are made up of _____.
 - a) Plastic
 - b) Iron
 - c) Steel
 - d) Silica
- 3) _____ is determined by using wool-yarn and grease in the evaluation of shampoos.
 - a) Penetrability
 - b) Detergency action
 - c) Foaming ability
 - d) Thermal stability
- 4) Stability testing is done _____.
 - a) To determine shelf life of product.
 - b) To determine the components used for packing.
 - c) To get information at preformulation stage.
 - d) All of the above
- 5) _____ includes the functional and technical specification for the machine and equipment.
 - a) SAT
 - b) URS
 - c) PQ
 - d) FAT
- 6) In NMR spectroscopy, the spin of nucleus generates _____ field.
 - a) Magnetic
 - b) Electric
 - c) Electromagnetic
 - d) None of the above
- 7) As per BIS the pH of the skin cream based on beeswax and borax shall be between _____.
 - a) 3.0 - 30.0
 - b) 7.0 - 10.0
 - c) 5.0 -10.0
 - d) 2.0 - 20.0
- 8) _____ methods used for stability study should be validated.
 - a) Analytical
 - b) Statistical
 - c) Biological
 - d) None of the above
- 9) Based on situation, there are _____ categories of the deviation.
 - a) Three
 - b) One
 - c) Four
 - d) Two
- 10) Nephelometry is used to measure the _____ of light.
 - a) Absorption
 - b) Scattering
 - c) Reflection
 - d) Transmission

Q.5 Answer the following. (Any Two)

14

- a)** Explain the evaluation parameters of tooth paste.
- b)** Explain in detail instrumentation of gas chromatography and give its applications.
- c)** Write down in detail about the guideline to be followed for the stability testing of finished product under different storage conditions as per WHO.

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

- 1) Define material management, give its scope with respect to Purchase and Inventory control.
- 2) An invoice of chemical A and 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: 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.

- 3) Write about advantages and Disadvantages if JIT.

b) Answer the following. (Any One) **04**

- 1) What is scrap? Explain scrap disposal and scrap control method in industry.
- 2) Write down the objectives of Inventory control. What do you mean by Inventory shrinkage?

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

- 1) Explain Role of QC team in receiving of material, How the Inspection is done during receiving of material or finished goods.
- 2) Give detail account on centralized purchase and decentralize purchase.
- 3) Explain.
 - i) forecasting techniques
 - ii) Time series analysis

Seat No.	
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Five Years Integrated M. Tech (Semester - VIII) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Colours in Cosmetics (CT3802)

Day & Date: Monday, 18-12-2023
 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 does color do?
 - a) Fills in empty spaces
 - b) Makes things artsy
 - c) Colors can draw attention; have an emotional and psychological impact
 - d) Takes up space
- 2) A mixture of a color with black is what?
 - a) Value
 - b) Tint
 - c) Saturation
 - d) Shade
- 3) A mixture of a color with White is what?
 - a) Value
 - b) Tint
 - c) Saturation
 - d) Shade
- 4) CMYK stands for _____.
 - a) Cyan, Magenta, Yellow, and Black
 - b) Cedar, Margarine, Yellow, and Krystaline
 - c) Can't Mind Your Crazy rules
 - d) Cedar, Mustard, Yellow, and Black
- 5) What term is given to the fear of colours?
 - a) Farbophobia
 - b) Chromophobia
 - c) Buntophobia
 - d) Colorophobia
- 6) Which of the following types of colors are found on a color wheel?
 - a) Primary colors
 - b) Secondary colors
 - c) Tertiary colors
 - d) All of the answers are correct
- 7) _____ is another word for the brightness of a color.
 - a) Value
 - b) Intensity
 - c) Hue
 - d) Complementary
- 8) What does certified color mean?
 - a) Synthetically produced
 - b) FD&C Color Pigments
 - c) High purity
 - d) All of the above
- 9) Which of the following is a certificated color?
 - a) FD&C Red No. 40
 - b) FD&C Red No. 3
 - c) Allura Red AC
 - d) Both A & B

- 10) The loss of color, when dyed fabric is immersed in water is called _____.
 - a) Crocking`
 - b) Bleeding
 - c) Shading
 - d) Barre
- 11) Dye is a substance used to impart color to _____.
 - a) textiles
 - b) paper
 - c) leather
 - d) All of the above
- 12) Lake Colors are easily mixed with _____.
 - a) fats
 - b) sugars
 - c) oils
 - d) All of the above
- 13) Green color represents _____.
 - a) new beginnings
 - b) calming effect
 - c) down-to-earth significance
 - d) All of the above
- 14) Natural dyes are _____.
 - a) Plant Origin
 - b) Animal Origin
 - c) Mineral Origin
 - d) All of the above

- Q.2 A) Answer the following (Any Four) 08**
- 1) What means Chroma?
 - 2) What's the difference between hue and chroma?
 - 3) What is the another word for Hue?
 - 4) What is a tint art?
 - 5) What are the benefits of Pigment Colours?
- B) Write notes on (Any Two) 06**
- 1) What is meant by FDA certified colors? And explain its types.
 - 2) Write down the details of Dye.
 - 3) Explain in detail about Pigment and Lake colours.
- Q.3 A) Answer the following. (Any Two) 08**
- 1) Write a note regarding knowledge of color and light.
 - 2) What is colour determination?
 - 3) Enlist any four examples of Basic dyes
- B) Answer the following. (Any One) 06**
- 1) Draw the structure of
 - i) Reactive black 5
 - ii) Acid blue 25
 - iii) Methylene blue
 - 2) What are the advantages of Synthetic dye?
- Q.4 A) Answer the following. (Any Two) 10**
- 1) Explain the toxic effect of dyes.
 - 2) Enlist any five uses of Azoic dyes.
 - 3) What factors affect the color of the components?
- B) Answer the following. (Any One) 04**
- 1) Write a note on Warm colors, Cool colors, Happy color and Sad colors.
 - 2) What are the important applications of Acidic and Direct dyes?
- Q.5 Answer the following. (Any Two) 14**
- a) Define colors and explain in detail about Synthetic dyes.
 - b) Write in detail advantages and disadvantages of Natural dyes.
 - c) Why do artists use a color wheel? And explain Primary, Secondary and Tertiary colors.

Seat No.	
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**Five Years Integrated M. Tech (Semester - VIII) (New) (CBCS)
Examination: Oct/Nov-2023
Cosmetic Technology - VI (CT3803)**

Day & Date: Tuesday, 19-12-2023
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.
 - 4) Use of calculator and log table is allowed.

Q.1 Choose the correct alternative

14

- 1) Sunscreens work by _____.
 - a) Absorbing the sun's rays
 - b) Reflecting the sun's rays
 - c) Scattering the sun's rays
 - d) All of the above
- 2) In _____ preparation the blend of NaOH: KOH: TEA is used.
 - a) Brushless shaving stick
 - b) Sunscreen
 - c) Lather shaving cream
 - d) Nail paint
- 3) _____ loosen the hard skin of warts, corns, and calluses, making them easier to peel off the foot.
 - a) Oxalic acid
 - b) salicylic acid
 - c) Perchloric acid
 - d) Stearic acid
- 4) _____ is used to strip the nail polish from the nail plate.
 - a) Nail lacquers
 - b) Nail hardener
 - c) Nail elongators
 - d) Nail enamel remover
- 5) _____ is added to avoid separation of solid powder and liquid phase of toothpaste.
 - a) Humectant
 - b) Binder
 - c) Astringent
 - d) Diluent
- 6) How often should sunscreen be applied?
 - a) Every half hour
 - b) Every hour
 - c) Every 2 hours
 - d) Every 3 hours
- 7) The sticks & bar soap differ from each other except _____.
 - a) Stick form contain a small amount of glycerin.
 - b) It composed mainly of stearic acid
 - c) It contain lager amount or % of K stearate than the bar soap.
 - d) All of the above
- 8) _____ is a type of callosity.
 - a) Salves
 - b) Corn
 - c) Lacquer
 - d) plaster
- 9) _____ astringent is used in mouthwash.
 - a) Sorbitol
 - b) Xylitol
 - c) Zinc chloride
 - d) Carmine

Seat No.	
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**Five Year Integrated M. Tech. (Semester - VIII) (New) (CBCS) Examination:
Oct/Nov-2023**

**COSMETIC TECHNOLOGY
Herbal Cosmetics - II (CT3805)**

Day & Date: Thursday, 21-12-2023
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) *Bhringraj* belongs to family _____.
 - a) *Fabaceae*
 - b) *Ostiraceae*
 - c) *Asteraceae*
 - d) None of the above
- 2) Undesired plants in the field are known as _____.
 - a) Pests
 - b) Weeds
 - c) Cover crop
 - d) Buffers
- 3) *Ficus golmerata* belongs to family _____.
 - a) *Moraceae*
 - b) *Malvaceae*
 - c) *Margoaceae*
 - d) None
- 4) Advantage of biopesticides is / are _____.
 - a) Natural
 - b) Less toxic
 - c) Effective in small concentration
 - d) All
- 5) Flavors and perfumes are _____.
 - a) essential oils
 - b) volatile oils
 - c) oils
 - d) liquids
- 6) Ark contains _____.
 - a) Herbal juices
 - b) Powder drugs
 - c) Medicated butter
 - d) Distillates of herbs
- 7) *Rubia cordifolia* was an economically important source of a _____ in many regions of Asia.
 - a) red pigment
 - b) white pigment
 - c) orange pigment
 - d) All of the above
- 8) *Carrot* is originated from _____ in western Asia.
 - a) India
 - b) Brazil
 - c) China
 - d) Afghanistan
- 9) Herbs are defined as plant with _____.
 - a) Aromatic property
 - b) Flavoring properties
 - c) Medicinal properties
 - d) All of the above
- 10) Evaluation means _____.
 - a) Determination of quality & purity of drug
 - b) To confirm identity of drugs
 - c) To detect the adulteration
 - d) All of the above

Q.5 Answer the following (Any Two).

- 1) Explain skin care of *Kesar (Saffron)* & explain their biological source, geographical source, chemical constituent with cosmeceuticals uses.
- 2) Explain Hair care by *Neem* their biological source and geographical source, chemical constituent with cosmeceuticals uses.
- 3) Write down advantages in formulating herbal beauty products.

Seat No.	
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Five Years Integrated (M. Tech) (Semester - VIII) (New) (CBCS)

Examination: Oct/Nov-2023

COSMETIC TECHNOLOGY

Management and Organizational Behavior (CT3808)

Day & Date: Friday, 22-12-2023

Max. Marks: 70

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 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) Identify the different word from given group below Need of knowledge, Prestige, Recognition, clothing.

a) Need of knowledge	b) Prestige
c) Recognition	d) clothing
- 3) Legitimate power is also known as _____.

a) Positional power	b) Expertise power
c) Personnel power	d) None of above
- 4) Following are the methods of departmentation except.
 - a) Departmentation by Process
 - b) Departmentation by Territory
 - c) Departmentation by customer
 - d) Departmentation Employee count
- 5) Identify the correct sequence of stages of group formation.

A) Storming	
B) Performing	
C) Forming	
D) Norming	
E) Adjourning	
a) E,D,C,B,A	b) C,A,D,B,E
c) A,B,C,D,E	d) D,C,E,B,A
- 6) Sentence A: Management is Invisible process.
Sentence B: Management is process of organized and systematic activity.

a) True; False	b) True; True
c) False; True	d) False; False
- 7) _____ is the ability to influence others behavior.

a) Motivation	b) Control
c) Power	d) Inspiration
- 8) The term MBO was coined by _____.

a) Peter Drucker	b) F.W. Taylor
c) Henry Fayol	d) Louis Allen

- 9) Float is _____.
 - a) Spare funds
 - b) Spare Inventory
 - c) Spare Product
 - d) Spare Time
- 10) _____ is the complex set of forces starting and keeping a person at work in an organization.
 - a) Motivation
 - b) Inspiration
 - c) Control
 - d) Leader
- 11) Job enrichment is _____.
 - a) Upgrading of responsibility
 - b) Increasing the number of tasks
 - c) Both A and B
 - d) None of above
- 12) Planning is _____ function.
 - a) Primary
 - b) Secondary
 - c) Tertiary
 - d) None of above
- 13) Following are the examples of extrinsic motivation except _____.
 - a) Attitude
 - b) Rewards
 - c) Punishments
 - d) Leadership styles
- 14) 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

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

- 1) Explain the term Esprit de Corps.
- 2) Explain in short about Illumination Experiment.
- 3) Explain the term Committee.
- 4) Write down the Alderfer's ERG theory.
- 5) Define and Classify activity.

b) Write Notes on (Any Two) 06

- 1) Difference between Motivation and Inspiration.
- 2) Departmentation of Cosmetic Industry by Products.
- 3) McClelland's Achievement Model.

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

- 1) Management is A Science or An Art, share your views.
- 2) Explain different types of planning.
- 3) What do you mean by Job Enrichment?

b) Answer the following. (Any One) 06

- 1) Write about Frederick W. Taylor contribution to evolution of management.
- 2) Define management and explain different levels of Management.

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) Enlist the different techniques of Controlling, Comment on limitations of Controlling.

b) Answer the following. (Any One) 04

- 1) Comment on problems associated with Delegator part in Delegation of authority.
- 2) Explain financial motivation.

Q.5 Answer the following. (Any Two)

- a)** Define Team and state different types of Team.
- b)** Explain theories of Group Formation.
- 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:
Oct/Nov-2023**

COSMETIC TECHNOLOGY

Advance Cosmetic Technology – I (CT3901)

Day & Date: Friday, 05-01-2024
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) Reduction of particle size in cosmetic emulsion can be achieved by use of _____.
 - a) Homogenizer
 - b) Colloidal mill
 - c) Ultrasonic device
 - d) All of above
- 2) In cyclodextrin the radii of the rigid cavities vary from _____.
 - a) 0.10 nm to 0.20 nm
 - b) 0.20 nm to 0.45 nm
 - c) 0.50 nm to 0.85 nm
 - d) None of above
- 3) A ____ operation is usually performed to improve the finished appearance of the lipsticks.
 - a) Blistering
 - b) Waxing
 - c) Flaming
 - d) All the above
- 4) If surfactant has small molar number of the hydrophilic group (e.g. glycerin) results in _____.
 - a) Low HLB
 - b) High HLB
 - c) Does not have any effect
 - d) emulsion destabilization
- 5) Identify the different word from given group below. Enzymes, Polymers, Iontophoresis, Surfactants.
 - a) Enzymes
 - b) Polymers
 - c) Iontophoresis
 - d) Surfactants
- 6) Generally accepted solutions which are used in hydration of lipid cake is/are _____.
 - a) 0.9% Saline
 - b) 5% dextrose
 - c) 10% sucrose
 - d) All the above
- 7) _____ Fatty acids are frequently reported as skin penetration enhancers.
 - a) Long chain
 - b) Medium chain
 - c) Both A and B
 - d) None of above
- 8) With the increase in degree of unsaturation, the effectiveness of preservative _____.
 - a) Increases
 - b) Decreases
 - c) Remains same
 - d) None of above

- Q.4 A) Answer the following. (Any two) 10**
- 1) Discuss the polymeric nanoparticles involving nano capsules and nanosphere.
 - 2) Write about formaldehyde and formaldehyde releasing preservatives.
 - 3) Explain 'Vertical screw mixture' and 'V blender'?
- B) Answer the following. (Any one) 04**
- 1) Give main objective of COSMOS and explain the benefits of synthetic preservatives.
 - 2) Define microparticle; write down the advantages of nanoparticle.
- Q.5 Answer the following. (Any two) 14**
- a) Describe 'Parabens' as controversial ingredients and write down the alternative for same.
 - b) Explain toxicological impact of nanoparticles on skin.
 - c) Explain general mechanism of action of 'Penetration Enhancers'. Give advantages and disadvantages of penetration enhancers. Enlist any 4 names of chemical enhancers used in Cosmetics.

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

Day & Date: Sunday, 07-01-2024
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) _____ is used to remove different types of stain on the nails.
 - a) Nail lacquer
 - b) Nail bleach
 - c) Gel polish
 - d) None of the above
- 2) Starch used in the preparation of microsphere is _____ in nature.
 - a) Biodegradable
 - b) Biocompatible
 - c) Bioadhesive
 - d) All of the above
- 3) Phospholipids are _____ in nature.
 - a) Hydrophilic
 - b) Lipophilic
 - c) Amphiphilic
 - d) None of the above
- 4) _____ micronutrient protects the skin from damaging effect of ultraviolet light.
 - a) Omega-3 and 6 fatty acid
 - b) Carotenes
 - c) Flavonoids
 - d) All of the above
- 5) RS grade of nitrocellulose has solubility in _____.
 - a) Esters
 - b) Ketones
 - c) Glycol ethers
 - d) All of the above
- 6) The alkali treated collagen is referred as _____ gelatin.
 - a) Type A
 - b) Type B
 - c) Type III
 - d) None of the above
- 7) _____ are mainly used as organic phase in the preparation of cosmetic organogels.
 - a) Mineral Oil
 - b) Vegetable Oil
 - c) Both a and b
 - d) None of the above
- 8) _____ team will develop the formula and product prototype.
 - a) Packaging
 - b) R and D
 - c) Marketing
 - d) Production
- 9) _____ is an example of synthetic biodegradable polymer.
 - a) PLGA
 - b) PLA
 - c) PCL
 - d) All of the above
- 10) _____ is an example of low boiling solvent.
 - a) Butyl alcohol
 - b) Butyl lactate
 - c) Ethyl lactate
 - d) Methyl acetate

- 11) The organogel formation depends on the _____.
 a) Organic phase
 b) Characteristic of the gelling molecule
 c) Temperature
 d) All of the above
- 12) _____ is a quaternary ammonium compound used in the preparation of cuticle cream.
 a) Cetyl pyridinium chloride.
 b) Stearyl dimethyl benzyl ammonium chloride.
 c) Both a and b
 d) None of the above
- 13) Which of the following statement is correct?
 a) Chitosan is prepared by copolymerization of two different monomer.
 b) Bulk polymerization leads to the formation of pure polymer.
 c) Shell is intrinsic part.
 d) Cross linking achieved by heat is suitable for thermolabile active agents.
- 14) It is dangerous to use aerosol hairspray near _____.
 a) Heat
 b) Fire
 c) Both a and b
 d) None of the above

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

- 1) Define the following:
 - a) Microencapsulation
 - b) Gelator
- 2) What is the role of propylene glycol in cuticle remover and write down the benefits of cuticle remover.
- 3) How organogels are prepared.
- 4) Enlist the role of active ingredient used in Nutracosmetics.
- 5) How PLGA microspheres are prepared.

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

- 1) Write a note on diluents used in nail polish.
- 2) Write a note on salt addition technique for phase separation and coacervation.
- 3) Write a note on non-ionic surfactant used in niosomes.

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

- 1) Write down the procedure of spray drying and spray congealing methods for the preparation of microparticles.
- 2) Add a note nitrocellulose as film forming agent in nail polish.
- 3) Write down the steps involved in development of new cosmetics.

B) Answer the following. (Any One) 06

- 1) Explain the cosmetic application of liposomes.
- 2) Explain the procedure of preparation of microsphere by single and double emulsion technique.

- Q.4 A) Answer the following. (Any Two) 10**
- 1) Describe cuticle oils.
 - 2) Explain the components of liposomes.
 - 3) Add a note on Nutracosmetics.
- B) Answer the following. (Any One) 04**
- 1) Add a note on carrageenan as a biodegradable polymer used in microencapsulation.
 - 2) Which factor to be considered while designing nail polish.
- Q.5 Answer the following. (Any Two) 14**
- a) Write down the methods of preparation of niosome.
 - b) Explain the plasticizers used in the preparation of microcapsules.
 - c) Explain the evaluation parameters of nail polish.

Seat No.	
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Five Year Integrated M. Tech (Semester - X) (New) (CBCS)
Examination: Oct/Nov-2023
COSMETIC TECHNOLOGY
Research Methodology (CT4001)

Day & Date: Friday, 05-01-2024
 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 **05**

- 1) Technical report involves ____ Steps.

a) Five	b) Six
c) Seven	d) Eight
- 2) In manuscript, the typing spacing should be _____.

a) Double spaced	b) Single spaced
c) One and half spaced	d) half spaced
- 3) High flexibility is the example of ____ sampling

a) Random	b) Cluster
c) Simple	d) None of the above
- 4) In data editing, coding involves _____ of answers.

a) Re-coding	b) Re-shuffling
c) Repeating	d) Editing
- 5) There are ____ types of research reports.

a) Two	b) Three
c) One	d) Four

Q.2 Answer the following **10**

- 1) Give the difference between technical report and popular report.
- 2) What is significance of report writing?
- 3) What is descriptive research?
- 4) How dose researcher collect the data?
- 5) Give the difference between personal interview and telephonic interview?
- 6) What is field research?

Q.3 Give the answer of the following. **10**

- a) Explain sampling error.
- b) Define research, explain its types and importance.

Q.4 Give the answer of the following. **10**

- a) Describe the objective of Research
- b) Explain the mechanics of writing a research report.