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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - II) (New) (NEP CBCS) Examination: March/April- 2026
Human Anatomy (CT01208)**

Day & Date: Tuesday, 21-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

- Instructions:** 1) All questions are compulsory.
2) Draw neat labelled diagrams wherever necessary.
3) Figure to right indicates full marks.

Q.1 Choose the correct alternative.**06**

- 1) Haemoglobin molecule contains four globin chains and _____ haem units.

a) Four	b) Two
c) One	d) Three
- 2) Cartilage is a type of _____ tissue.

a) Epithelial	b) Connective
c) Nervous	d) Muscular
- 3) Blood group B has _____.

a) Antigen A	b) Antigen B
c) Antigen A and B	d) Neither A nor B antigen
- 4) Blood group A makes _____.

a) Anti-B	b) Anti-A
c) Neither anti-A nor anti-B	d) Both anti-A or anti-B
- 5) Hair follicle is present in _____ layer of the skin.

a) Epidermis	b) Subcutaneous
c) Dermis	d) Basal
- 6) _____ sweat glands open on to the skin surface though tiny pores.

a) Eccrine	b) Apocrine
c) Sebaceous	d) Pituitary

Q.2 Answer the Following. (Any Three)**06**

- a) Write a note on Mitochondria.
- b) Give types of Nervous tissue.
- c) Enlist different clotting factors involved in blood coagulation process.
- d) Give normal values for Haemoglobin for male and female.
- e) Give types of colours related to skin.

- Q.3 Answer the Following. (Any Two) 06**
- a) Draw neat labelled diagram of Hair.
 - b) Write about antigens and antibodies present in different blood groups.
 - c) Draw neat labelled diagram of Teeth.
- Q.4 Answer the Following. (Any Two) 06**
- a) Describe in detail sweat gland.
 - b) Draw neat labelled diagram of Nail.
 - c) Describe in detail sebaceous gland.
- Q.5 Answer the following questions. (Any One) 06**
- a) Explain in detail the process of cell cycle along with different phases.
 - b) Describe in detail anatomy and physiology of skin along with neat labelled diagram.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - II) (New) (NEP CBCS) Examination:
March/April – 2026
Analytical Chemistry (CT01207)**

Day & Date: Thursday, 23-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

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

Q.1 Choose the correct alternatives.**06**

- 1) _____ cells are electrochemical device that convert chemical energy into electric energy.
 - a) Mechanical
 - b) secondary
 - c) primary
 - d) both B & C
- 2) Beers law is related to the _____ through which light is passing.
 - a) thickness of the medium
 - b) thickness of the instrument
 - c) concentration of the medium
 - d) concentration of the instrument
- 3) The unit of frequency is _____.
 - a) cm
 - b) metre
 - c) nm
 - d) Hertz
- 4) The electrodes used in the pH measurement have _____ internal resistance.
 - a) very low
 - b) moderate
 - c) very high
 - d) none of the above
- 5) _____ is the neutral value of pH scale.
 - a) less than 5
 - b) equal to 7
 - c) greater than 8
 - d) both A & B
- 6) Basically, a potentiometer is a device for _____.
 - a) comparing two voltages
 - b) measurement of current
 - c) measuring the voltage
 - d) None of these

Q.2 Answer the following. (Any Three)**06**

- a) What is potentiometer.
- b) Explain the single cell electrode.
- c) Define Faradays law.
- d) What is anode and cathode.
- e) Define the term Electrolysis.

- Q.3 Answer the following. (Any Two) 06**
- a) Explain the important component of pH meter.
 - b) Explain in detail Daniel cell.
 - c) Write a note on Redox reaction.
- Q.4 Answer the following (Any Two) 06**
- a) Write a note on colorimeter.
 - b) Explain the basic principles of electroplating.
 - c) Write a note on principles of Potentiometric titration.
- Q.5 Answer the following (Any One) 06**
- a) Define Glass electrode and explain their advantages and disadvantages in detail.
 - b) Write a note on Lamberts Beers law with derivation in detail.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - II) (New) (NEP CBCS) Examination: March/April - 2026
English/ English for Communication (ENG-201)**

Day & Date: Thursday, 16-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

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

Q.1 Choose the correct alternative from the following:**06**

- 1) The body of the letter should be _____.
 - a) Long and confusing
 - b) Short, clear, and to the point
 - c) Informal
 - d) Full of jokes
- 2) Which tone is generally used in WH-questions?
 - a) Rising tone
 - b) Falling tone
 - c) Level tone
 - d) Mixed tone
- 3) Which of the following is NOT a blog topic?
 - a) Travel experience
 - b) Food review
 - c) Personal diary online
 - d) Official government notice
- 4) Empathetic listening means:
 - a) Listening without interest
 - b) Listening with understanding and feelings
 - c) Ignoring emotions
 - d) Arguing
- 5) Which tone indicates that the speaker has finished speaking?
 - a) Rising tone
 - b) Falling tone
 - c) Level tone
 - d) Mixed tone
- 6) Which of the following is a barrier to effective listening?
 - a) Concentration
 - b) Noise
 - c) Eye contact
 - d) Interest

Q.2 Answer the following questions. (Any Two)**06**

- a) Write about Newspaper report and its structure.
- b) Explain the types of listening.
- c) Comment on different types of blogs.
- d) Explain the tones in English language.

Q.3 Write Short Notes. (Any One)**06**

- a) Discuss the role of listening for Effective communication.

OR

- b) Write in detail common barriers to listening.

Q.4 Answer the following. (Any One)

12

a) Discuss the structure of a formal application letter and draft an application letter to the principal of your college requesting permission to organize a cultural event including all the necessary details about the event.

OR

b) Write a blog on online learning v/s offline learning.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology) (Sem - II)
(New) (NEP CBCS) Examination: March/April – 2026
Environmental Studies (ENS24)**

Day & Date: Saturday, 18-04-2026
Time: 09:00 AM To 10:30 AM

Max. Marks: 30

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

Q.1 Choose the correct alternative:**06**

- 1) Which of these is a goal of sustainable development?
 - a) Rapid industrialization
 - b) Economic growth at all costs
 - c) Unlimited use of natural resources
 - d) Eradication of poverty and protection of the environment

- 2) Which of the following is NOT a level of biodiversity?

a) Genetic diversity	b) Cultural diversity
c) Species diversity	d) Ecosystem diversity

- 3) Which of the following ecosystems has the highest biodiversity?

a) Desert	b) Tundra
c) Grassland	d) Tropical rainforest

- 4) Which of the following energy sources is considered clean and renewable?

a) Coal	b) Petroleum
c) Solar energy	d) Diesel

- 5) The Kyoto Protocol is mainly associated with _____.
 - a) Water pollution
 - b) Climate change and greenhouse gas emissions
 - c) Forest conservation
 - d) Ocean acidification

- 6) The Environment Protection Act in India was passed in the year _____.

a) 1972	b) 1986
c) 1991	d) 2000

Q.2 Answer the questions. (Any Three)**06**

- a) What is the 3R principle in the waste management?
- b) Define non-biodegradable waste with their examples.
- c) Define biodiversity.
- d) Define ecosystem with their types.

- Q.3 Answer the questions. (Any Two) 06**
- a) Describe two major human health risk associated with nuclear hazard.
 - b) What are the main causes of man-wildlife conflict?
 - c) Write a short note on desert ecosystem.
- Q.4 Answer the questions. (Any Two) 06**
- a) Distinguish between renewable & non-renewable energy sources with their examples.
 - b) Explain water conflicts with examples. How do Floods & Drought effects the environment & society.
 - c) Short note on convention on biodiversity.
- Q.5 Answer the questions. (Any One) 06**
- a) Describe the cause & control measures of water pollution.
 - b) Discuss the significance & major provisions of any three environmental laws enacted in India.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - II) (New) (NEP CBCS) Examination: March/April- 2026
Cosmetic Technology – II (CT01201)**

Day & Date: Saturday, 25-04-2026
Time: 11:00 AM To 12:30 PM

Max. Marks: 30

- Instructions:** 1) All questions are compulsory.
2) Draw neat labelled diagrams wherever necessary.
3) Figure to right indicates full marks.

Q.1 Choose the correct alternative.**06**

- 1) Which dosage form is usually used for lubricating and cooling effect in burns and wounds?
 - a) Paste
 - b) Cream
 - c) Ointment
 - d) Jelly
- 2) Which type of powder is compressed into a solid form and usually used as a cosmetic?
 - a) Bulk powder
 - b) Dusting powder
 - c) Compact powder
 - d) Effervescent powder
- 3) Which of the following agents is commonly used as an emulsifier?
 - a) Starch
 - b) Magnesium sulfate
 - c) Tween 80
 - d) Ethanol
- 4) Deflocculated suspensions are characterized by _____.
 - a) Rapid sedimentation and easy redispersion
 - b) Slow sedimentation and hard cake formation
 - c) No sedimentation at all
 - d) High zeta potential leading to flocculation
- 5) Safety evaluation of preservatives is essential because _____.
 - a) They reduce viscosity
 - b) They may cause allergic reactions
 - c) They are volatile
 - d) They enhance product color
- 6) K_a is called as _____.
 - a) Acid dissociation constant
 - b) Base dissociation constant
 - c) Avogadro constant
 - d) Salt dissociation constant

- Q.2 Answer the Following. (Any Three) 06**
- a) Distinguish between Emulsions and Suspensions.
 - b) Write ideal properties of Preservatives.
 - c) Write a note on Compact powder.
 - d) Define Cosmetic cream and classify them.
 - e) Explain in short Retractive index.
- Q.3 Answer the Following. (Any Two) 06**
- a) Write a note on stability of Suspensions.
 - b) Define Powder. Classify them. Elaborate Dusting powder.
 - c) Discuss in detail Ointment bases.
- Q.4 Answer the Following. (Any Two) 06**
- a) Explain factors influencing the effectiveness of Preservatives.
 - b) Write a note on preparation methods of Creams.
 - c) Differentiate Flocculated and Deflocculated suspensions.
- Q.5 Answer the following questions. (Any One) 06**
- a) Classify Emulsions and identification tests of Emulsions.
 - b) Give a brief note on Optical activity of compounds with their applications.

- Q.3 Answer the Following. (Any Two) 06**
- a) Explain in detail about tannins.
 - b) Write down the biological source, chemical constituent and uses of Mica.
 - c) Explain in detail about Storax.
- Q.4 Answer the Following. (Any Two) 06**
- a) Explain different methods of adulterations.
 - b) Explain in detail about biological source, chemical constituents and uses of Bentonite.
 - c) Explain in detail about colophony.
- Q.5 Answer the following questions. (Any One) 06**
- a) Explain in detail about physical evaluation method and organoleptic evaluation method for detection of adulteration.
 - b) Write down the biological source, geographical source, chemical constituent and uses of Baheda.

- Q.3 Answer the Following. (Any Two) 06**
- a) Explain the advantages and disadvantages of non-aqueous titrations.
 - b) Justify, viscosity and rheology are important in thickeners.
 - c) Define Impurity and explain various types of Impurities in cosmetic formulation.
- Q.4 Answer the Following. (Any Two) 06**
- a) Define pH, Explain in brief the concept of pH and pH scale.
 - b) What is the limit test? Explain the limit test of Chloride in detail.
 - c) What is buffer solution? Explain its types and properties.
- Q.5 Answer the following questions. (Any One) 06**
- a) Define Impurity. Give principle and detail procedure for limit test for Arsenic along with neat labelled diagram.
 - b) Define cosmetic thickeners. Explain various types of cosmetic thickeners.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - III) (New) (NEP CBCS) Examination: March/April – 2026
Cosmetic Technology - III (CT01301)**

Day & Date: Friday, 17-04-2026
Time: 11:00 AM To 12:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternative. 06

- 1) Bees wax is important component of _____.
 a) vanishing cream b) cold cream
 c) cleansing cream d) foundation cream
- 2) Potassium soaps are _____.
 a) hard soap b) soft or liquid soap
 c) transparent soap d) medicated soap
- 3) The most commonly used emulsifier in dispersible bath oil is _____.
 a) tween 80 b) stearic acid
 c) propylene glycol d) cetyl alcohol
- 4) Glycerine have _____ hygroscopicity.
 a) Strong b) Moderate
 c) Controlled d) Low
- 5) _____ humectants are widely used humectant.
 a) Inorganic b) Metal organic
 c) Organic d) All of the above
- 6) All-purpose cream is also called as _____.
 a) cleansing cream b) foundation cream
 c) cold cream d) sport cream

Q.2 Answer the following question. (Any Three) 06

- a) Explain drying out process.
- b) Define bath oil.
- c) Define oxidation and free radicals.
- d) Differentiate between soap and detergent.
- e) Explain characteristics of soap.

Q.3 Answer the following questions. (Any Two) 06

- a) Explain types of products used in bath preparation and their formulation.
- b) Explain stability and safety of urea.
- c) Define and classify humectants.

Q.4 Answer the following questions. (Any Two) 06

- a) Write a note on bath salt and foam bath.
- b) Explain skin moisturization and hygroscopicity.
- c) Explain all purpose cream.

Q.5 Answer the following questions. (Any One) 06

- a) Explain classification of antioxidant and semi boiled process for manufacturing of soap.
- b) Discuss bath preparation in detail.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - III) (New) (NEP CBCS) Examination: March/April - 2026
Cosmetic Chemistry-III (Analytical) (CT01302)**

Day & Date: Monday, 20-04-2026
Time: 11:00 AM To 12:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternative.**06**

- 1) The redox titration is a type of _____ analysis.
 - a) quantitative
 - b) both qualitative and quantitative
 - c) qualitative
 - d) none of the above

- 2) The process used to separate two miscible liquids is known as _____.
 - a) extraction
 - b) sterilization
 - c) filtration
 - d) distillation

- 3) In electrochemical cell, anode is _____ charged.
 - a) positively
 - b) either positively or negatively
 - c) negatively
 - d) neutral

- 4) According to _____ theory, an acid and base indicator exists in two tautomeric forms.
 - a) Ostwald's
 - b) Color change interval
 - c) Quinoid
 - d) Acid base theory

- 5) Geometry of complex with co-ordination number 6 is _____.
 - a) Linear
 - b) Triangular
 - c) Tetragonal
 - d) Octahedral

- 6) $E^0_{H^2+/H_2} =$ _____.
 - a) -0.763V
 - b) 0V
 - c) -0.337V
 - d) 0.337V

Q.2 Answer the Following. (Any Three)**06**

- a) Write ionic equations of redox reaction between potassium permanganate and oxalic acid.
- b) Explain in short, various types of volumetric analysis.
- c) Write a note on ester value.
- d) Enlist reducing agents and explain any one of them.
- e) Write a note on complexometric titration curve.

- Q.3 Answer the Following. (Any Two) 06**
- a) Comment on sterilization process.
 - b) Explain iodine value and its significance.
 - c) What is reduction? Explain any two reducing agents.
- Q.4 Answer the Following. (Any Two) 06**
- a) Explain acid value with its significance.
 - b) What is standard electrode potential? Explain calculation of standard electrode potential of zinc electrode.
 - c) Explain Quinoid theory of acid base indicator.
- Q.5 Answer the following questions. (Any One) 06**
- a) Explain measurement of EMF of cell using Nernst equation.
 - b) Explain EDTA as
 - i) complexone
 - ii) titrating agent.

Q.3 Answer the Following. (Any One) 06

- a) Examine the character of Ms. Pushpa.
- b) Explain the central message of the 'On Killing a Tree'.

Q.4 Answer the Following. (Any One) 12

- a) Discuss the theme of the short story 'The Lost child' by Munshi Premchand.

OR

- b) Analyze the story, 'Doctor's Word', by R. K. Narayan.

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**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - III) (New) (NEP CBCS) Examination: March/April- 2026
Biomolecules – I (CT01306)**

Day & Date: Monday, 27-04-2026
Time: 11:00 AM To 12:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternative.

06

- 1) Enzymes are named by adding _____ suffix.

a) -ese	b) -se
c) -ase	d) -eas

- 2) Which of the following is a non-essential amino acids?

a) Lysine	b) Threonine
c) Serine	d) Histidine

- 3) An enzyme that joins the ends of two strands of nucleic acid is _____.

a) Polymerase	b) Synthetase
c) Ligase	d) Helicase

- 4) Proteins are _____ in nature.

a) Acidic	b) Basic
c) Amphoteric	d) Neutral

- 5) Synthetic silicates are always found in _____ form.

a) Hydrated	b) Oxide
c) Hydroxide	d) Composite

- 6) Which of the following essential amino acids is not synthesized by the body?

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

Q.2 Answer the Following. (Any Three)

06

- a) What are glycogenic amino acids?
- b) Define the term metallic soaps.
- c) Define the synthetic silicates.
- d) What is non-essential amino acids?
- e) Define the proteins.

- Q.3 Answer the Following. (Any Two) 06**
- a) Draw the structure of the following amino acids.
 - i) Histidine
 - ii) Arginine
 - iii) Glycine
 - b) Explain the uses of proteins in cosmetics.
 - c) Explain the properties of clay minerals
- Q.4 Answer the Following. (Any Two) 06**
- a) Explain the classification of amino acids
 - b) Explain the classification of protein in detail.
 - c) Explain the uses of clay minerals in cosmetics.
- Q.5 Answer the following questions. (Any One) 06**
- a) Explain in detail the physical properties of protein & their uses in cosmetics.
 - b) Explain coenzymes in detail and give their uses in cosmetics.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Semester - III) (New) (NEP CBCS) Examination: March/April- 2026
Fundamentals of Skin Care (CT01309)**

Day & Date: Wednesday, 29-04-2026
Time: 11:00 AM To 12:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternative.**06**

- 1) _____ Method removes hair by uprooting it from the follicle using twisted thread.
 - a) Waxing
 - b) Threading
 - c) Shaving
 - d) Depilatory
- 2) _____ Tool is commonly used to examine the skin closely.
 - a) Tweezers
 - b) Wood's lamp
 - c) Facial machines
 - d) Thread
- 3) _____ Machine emits ozone during treatment.
 - a) Vacuum
 - b) High frequency
 - c) LED
 - d) Steamer
- 4) _____ Sterilization method is best for metal tools.
 - a) UV sterilizer
 - b) Alcohol wipes
 - c) Autoclave
 - d) Soap and water
- 5) Sterilization is important in beauty salons to prevent _____.
 - a) Acne
 - b) Skin dryness
 - c) Cross-contamination
 - d) Hair loss
- 6) Overuse of exfoliators can result in _____.
 - a) Glowing skin
 - b) Thickened skin
 - c) Irritation and skin barrier damage
 - d) Smaller pores

Q.2 Answer the Following. (Any Three)**06**

- a) What is microdermabrasion and what does it treat?
- b) Explain history of skin care.
- c) Define Sanitation.
- d) Explain homemade preparation of moisturizer.
- e) What is the CTM routine for healthy skin?

Q.3 Answer the Following. (Any Two) 06

- a) Explain different types of face shapes.
- b) Discuss the three pack preparation and uses of face pack.
- c) Explain in detail about Galvanic machine.

Q.4 Answer the Following. (Any Two) 06

- a) Define Waxing and explain the types of wax.
- b) Explain in detail about facial machines.
- c) Write a note on bleaching.

Q.5 Answer the following questions. (Any One) 06

- a) Explain the importance of skin analysis before starting any facial treatment. Describe the different skin types and common skin conditions that can be identified during a skin analysis.
- b) Explain different shapes of eyebrows according to face shapes.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Semester - VI) (New) (CBCS) Examination: March/April – 2026
Perfume - II (CT601)**

Day & Date: Thursday, 16-04-2026
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- Instructions:** 1) Q. No. 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 correct alternative.**10**

- 1) What is another name for alkyl, vinyl or aryl magnesium halides?
 - a) Carbonyl group
 - b) Grignard reagents
 - c) Organometallic compound
 - d) Ether solvent
- 2) Myroxylon balsamum Var. Perirae is the botanical source of the following plant.
 - a) Balsam of Peru
 - b) Balsam of Tolu
 - c) Lemon
 - d) Sandalwood
- 3) Which of the following is a common source of Benzoin?
 - a) *Viverra zibetha*
 - b) *Styrax benzoin*
 - c) *Commiphora molmol*
 - d) *Myroxylon balsamum*
- 4) _____ product is formed when two molecules of acetaldehyde reacts in the presence of dil. NaOH.
 - a) Resinous mass
 - b) Acetic acid
 - c) Ethyl acetate
 - d) Aldol
- 5) The nitrating agent is a _____ reactant.
 - a) Electrophilic
 - b) Nucleophilic
 - c) Both a and b
 - d) None of the above
- 6) The _____ is a white to yellow powdery synthetic musk with molecular formula $C_{12}H_{16}N_2O_5$.
 - a) Musk ambrette
 - b) Musk xylene
 - c) Musk Ketone
 - d) Muscone
- 7) Phenyl ethyl alcohol has an odour similar to _____.
 - a) Lemon
 - b) Orange
 - c) Rose
 - d) Grass
- 8) The _____ has local anaesthetic properties.
 - a) Phenyl ethyl alcohol
 - b) Bromine
 - c) Bromobenzene
 - d) 2-phenylethanol

- 9) _____ is an organic compound having molecular formula $C_{14}H_{12}O_2$.
- a) Benzyl benzoate b) Benzyl Acetate
c) Benzoin d) None of these
- 10) _____ is a modification of Aldol condensation reaction.
- a) Cross aldol condensation b) Pechmann condensation
c) Perkin reaction d) Knoevenagel

B) Write True or False. 06

- 1) Fruity notes are used as middle notes.
- 2) Floral notes often used as top or heart notes.
- 3) Musk ketone forms yellow crystals, having molecular formula $C_{14}H_{17}N_2O_5$.
- 4) Citronellal is a diterpenoid aldehyde.
- 5) The process of adding a nitro group to an organic compound is called esterification.
- 6) Cinnamaldehyde is an organic compound with the formula $C_6H_5CH=CHCHO$.

Q.2 Answer the following. 16

- a) Write down the physical and chemical properties of benzyl acetate.
- b) Write the source, chemical composition and uses of Sandalwood.
- c) Write a note on base note.
- d) Define nitration and write the mechanism of nitration.

Q.3 Answer the following. 08

- a) Explain in detail about Synthetic fixative. 08
- b) Discuss in detail about nitration of musk Ambrette. 08

Q.4 Answer the following. 08

- a) Discuss in detail about acetylated citrus notes. 08
- b) Explain in detail about the selection and uses of fixatives. 08

Q.5 Answer the following. 08

- a) Write a note on essential oil fixative. 08
- b) Brief explanation about the Grignard process and preparation of Grignard reagent. 08

Q.6 Answer the following. 08

- a) Discuss in detail about hydrogenation of Eugenol. 08
- b) Write a brief note on musk ketone. 08

Q.7 Answer the following. 08

- a) Discuss in detail about condensation reaction used in synthesis of coumarin. 08
- b) Explain in detail about synthesis reaction of phenyl ethyl alcohol. 08

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VI) (New) (CBCS) Examination: March/April – 2026
Cosmetic Technology - IV (CT602)**

Day & Date: Saturday, 18-04-2026
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) Draw neat labelled diagrams wherever necessary.
4) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative. 10

- 1) Domestic materials such as _____ cause damage to the unprotected skin.

a) Detergents	b) Metal polishes
c) Oven cleaners	d) All of the above

- 2) The adhesive power of baby powders can be improved by the incorporation of _____.

a) Magnesium stearates	b) Lanolin
c) Petrolatum	d) None of the above

- 3) _____ is used in vinyl-based system as film former.

a) Gelatin	b) Polyvinyl alcohol
c) Tragacanth	d) Both a and c

- 4) _____ is used as an opaque covering agent in skin lightening creams.

a) Hydrogen peroxide	b) Mercury Chloride
c) Titanium dioxide	d) Hydroquinone

- 5) Baby oils are composed of small amounts of following ingredients except _____.

a) Mineral oil	b) Fatty acid esters
c) Vegetable oils	d) Lanolin derivatives

- 6) Tetrachloratetrabromofluorescein is also known as D & C Red No _____.

a) 27	b) 21
c) 24	d) 30

- 7) _____ has an appreciably greater covering power than zinc oxide in compact rouge.

a) Precipitated chalk	b) Kaolin
c) Titanium dioxide	d) Talc

Q.7 Answer the following.

- a)** Discuss in detail the different materials used in the preparation of lipsticks. **10**
- b)** Write in detail about cleansing of nappies. **06**

Seat No.	
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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VI) (New) (CBCS) Examination: March/April – 2026
Principles of Cosmetics – II (CT603)**

Day & Date: Tuesday, 21-04-2026
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

Instructions: 1) Q. No.1 and 2 are compulsory.
2) Attempt any Three questions from Q.No.3 to Q.No.7.

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

- 1) The distribution phenomenon primarily involves the distribution of solute between _____.
 - a) Two miscible liquids
 - b) A solid and a gas
 - c) Two immiscible liquids
 - d) A solid and a liquid
- 2) Distribution law fails when _____.
 - a) The system is at equilibrium
 - b) Solute is present in very low concentration
 - c) The solute associates or dissociates in any phase
 - d) Temperature is constant
- 3) Colloidal gold is an example of _____.
 - a) Lyophilic colloid
 - b) Lyophobic colloid
 - c) Molecular solution
 - d) Suspension
- 4) Lyophilic colloids are generally _____.
 - a) Unstable
 - b) Irreversible
 - c) Easily coagulated
 - d) Reversible
- 5) A system that shows decreasing viscosity with increasing shear rate is known as _____.
 - a) Newtonian
 - b) Dilatant
 - c) Pseudoplastic
 - d) Bingham plastic
- 6) Which of the following exhibits a yield value?
 - a) Newtonian fluid
 - b) Pseudoplastic fluid
 - c) Bingham plastic
 - d) Dilatant fluid
- 7) Which rheological behavior is associated with toothpaste?
 - a) Newtonian
 - b) Pseudoplastic
 - c) Bingham plastic
 - d) Dilatant
- 8) Which technique is used to measure true density?
 - a) Tap test
 - b) Sieve analysis
 - c) Liquid displacement method
 - d) Gas displacement method

- 9) If Carr's index of a powder is 50% then the type of powder flow is ____.
- | | |
|--------------|-------------------|
| a) Poor | b) Excellent |
| c) Very poor | d) Extremely poor |
- 10) The ratio of the void volume to the bulk volume of the packing of the powder is called ____.
- | | |
|---------------------|-----------------|
| a) Porosity | b) True density |
| c) Granular density | d) Bulk density |

B) Write True or False.

06

- 1) Molecular association does not influence partitioning.
- 2) Distribution phenomenon occurs only in miscible liquids.
- 3) The electrical properties of colloids are important in evaluating their stability.
- 4) Rheology studies include both Newtonian and non-Newtonian flow behaviors.
- 5) Micromeritics is only applicable to liquid dosage forms.
- 6) True density can be measured using a gas displacement method like helium pycnometry.

Q.2 Answer the following.

16

- a) Explain various applications of distribution phenomenon.
- b) Explain Kinetic properties of colloids.
- c) Explain mechanism of thixotropy with examples.
- d) Define Angle of repose. Write its significance.

Q.3 Answer the following.

- a) State and explain Nernst distribution law along with its limitations. Explain the effect of molecular association and dissociation on distribution of solute when added to an immiscible system.

08

- b) Discuss electrical properties of colloids. Explain the mechanism of peptization of colloids.

08

Q.4 Answer the following.

- a) Explain Plastic, Shear thinning and shear thickening system with examples.

08

- b) Give Packaging arrangement of powders. Explain their influence on processing of solid Preparations.

08

Q.5 Answer the following.

- a) Write a note on stability of colloidal systems.

08

- b) Explain the Newtonian system of flow with examples. Explain Anti-thixotropy with examples.

08

Q.6 Answer the following.

- a) Enumerate methods to determine the particle size. With the help of neat diagram explain principle and working of Coulter counter method. **08**
- b) What are colloids? Classify the colloids. Explain in detail different types of colloids. Add note on optical properties of colloids. **08**

Q.7 Answer the following.

- a) Define Viscosity along with its units of expression. Explain factors influencing rheology of dispersed system. **08**
- b) What are derived properties of powder? Explain any four in detail. **08**

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VI) (New) (CBCS) Examination: March/April – 2026
Beauty Culture – II (CT604)**

Day & Date: Thursday, 23-04-2026
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) Draw neat labelled diagrams & give equations wherever necessary.
4) Figures to the right indicate full marks.

Q.1 A) Choose correct alternative.**10**

- 1) The hair do not have _____.
 - a) Root
 - b) Medulla
 - c) Hair bulb
 - d) Sweat glands

- 2) If you are trying to cover up a pimple, you should choose _____.
 - a) A concealer with green in it
 - b) A separate darker base for that area
 - c) A liquid concealer
 - d) None of the above

- 3) When highlighting, it is important not to forget the T- zone. What is the T-zone?
 - a) Forehead, nose and chin
 - b) Eyebrows, nose and neck
 - c) Forehead to chin and ear to ear
 - d) Ear to ear

- 4) Professional ethics is _____.
 - a) Trying to be friendly to people
 - b) A system of rules that tell professionals how they should behave
 - c) To become a member of a professional organization
 - d) A set of rules about beauty

- 5) What is concealer?
 - a) It goes all over your face
 - b) It goes under your eyes and on spot
 - c) It goes around the forehead
 - d) None of the above

- 6) Cheek colour comes in _____.
 - a) Cream form
 - b) Liquid form
 - c) Dry form
 - d) All of the above

- 7) Mascara is used for _____.
 - a) Applying on the eyebrows
 - b) Thickening and lengthening of the eyelashes
 - c) Applying on the eyelids
 - d) Beautifying the margins of the eyelids

- 8) Which of the following ingredients can be used for thickening of shampoos?
 - a) Glycerin and lactic acid
 - b) Sodium chloride and CMC
 - c) Bentonite and beeswax
 - d) Mineral oil and olive oil

- 9) Which makeup should be soft and natural looking?

a) Bridal makeup	b) Evening makeup
c) Day makeup	d) Trendy makeup

- 10) What is the effect of cuticle cream?
 - a) Emollient that softens the tissue at the base of the nail
 - b) Removes excess cuticle
 - c) Smooth the nail plate
 - d) All of the above

B) Write true or false.

06

- 1) Eyeshadows are available in liquid form only.
- 2) We use light colours under the brow.
- 3) Sometimes it is necessary to use a liner to cover the shine from dried lash glue.
- 4) The athlete's foot is found between the toes and appears as redness and broken skin, which is very itchy.
- 5) The technique in which the ends of the hair are cut at a slight taper, using diagonal lines is called beveling.
- 6) Permanent hair colour breaks up or diffuses melanin.

Q.2 Answer the following.

16

- a) What is astringent preparation?
- b) Describe professional ethics and desired attitude of beauticians to clients.
- c) Write a note on party makeup.
- d) Describe structure of hair.

Q.3 Answer the following.

- a) Solve the following:

10

- a) Describe eye makeup products.
- b) Write in detail about application of false eyelashes and their contraindications.

- b) Write about some common hairstyles.

06

- Q.4 Answer the following.**
- a) Solve the following: **10**
 - 1) What are the different shapes of face?
 - 2) Write a note on blusher.
 - b) What is hair conditioner? **06**
- Q.5 Answer the following.**
- a) Solve the following: **10**
 - 1) Write about types of primers?
 - 2) Write a note on natural hair dyes.
 - b) Describe corrective makeup for lips. **06**
- Q.6 Answer the following.**
- a) Solve the following: **10**
 - 1) What is toner?
 - 2) Describe corrective makeup for lips.
 - b) Describe in detail evening makeup. **06**
- Q.7 Answer the following.**
- a) Solve the following: **10**
 - 1) What is foundation in makeup?
 - 2) Describe eye makeup product.
 - b) Give a brief note on manicure and pedicure. **06**

Seat No.	
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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VI) (New) (CBCS) Examination: March/April – 2026
Pharmacology & Interaction - II (CT605-B)**

Day & Date: Saturday, 25-04-2026
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

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

Q.1 A) Choose correct alternative.**10**

- 1) What type of diet is generally recommended to help control inflammation related to allergies?
 - a) High-protein diet
 - b) Low carbohydrate diet
 - c) Anti-inflammatory diet
 - d) Mediterranean diet

- 2) What common household measure helps reduce mold growth for allergy sufferers?
 - a) Increasing humidity
 - b) Using essential oils
 - c) Reducing humidity below 50%
 - d) Keeping windows open

- 3) In allergic contact dermatitis, the initial sensitization phase, where the immune system develops memory against a specific allergen typically takes _____.
 - a) Less than 24 hours
 - b) Between 12-72 hours
 - c) Approximately 1-2 days
 - d) Around 10-14 days

- 4) Skin reactions observed after removing the patches are assessed using which scale?
 - a) Draize scale
 - b) Fitzpatrick scale
 - c) Visual Analog scale
 - d) Glasgow coma scale

- 5) Tissue damage in the foot may occur via _____.
 - a) Chemical stimulation
 - b) Mechanical stimulation
 - c) Thermal stimulation
 - d) All of the above

- 6) Which of the following is a characteristic of neuropathic foot pain?
 - a) Spontaneous stimulus-dependent pain
 - b) Spontaneous stimulus-independent pain
 - c) Homogenous group of symptoms
 - d) Both a and b

- 7) _____ are made of chemically inert polyethylene which does not react with the haptens.
 a) IQ Ultra chambers b) Finn chambers
 c) Van der Bend chambers d) Polyethylene chambers
- 8) Cracked heels are a common foot problem that is often referred to as _____.
 a) Heel fissures b) Foot Pain
 c) Callus d) Bunion
- 9) A small circumscribed solid elevation of the skin not larger than 5 mm in diameter is known as _____.
 a) Papules b) Miliaria
 c) Bullae d) Blister
- 10) The part of antigen which combines with antibody is called _____.
 a) Epitope b) Paratope
 c) Qubitope d) None of these

B) Write True or False.

06

- 1) The allergens should be kept in a cool, dark place.
- 2) Shin splints is a covering a number of common pains that occur in the shin area during or after sport.
- 3) White petrolatum is not suitable used as vehicles (solvents) for patch test substances.
- 4) Hyperkeratosis is to form a protective barrier against further soft tissue damage.
- 5) Fluorescein, an inorganic dye that is the most widely used label for immunofluorescence.
- 6) In patch test the preferred site is the lower back.

Q.2 Answer the following.

16

- a) Write down the principle of patch test.
- b) Briefly discuss the precipitation reaction and its applications.
- c) Briefly explain the pathophysiology of irritant contact dermatitis.
- d) Name three risk factors associated with developing heel fissures.

Q.3 Answer the following.

- a) Write a detailed note on dietary and nutritional approaches in allergy management. **08**
- b) Discuss in detail about Human Cumulative Irritation Tests. **08**

Q.4 Answer the following.

- a) Explain in detail about Complement Fixation reaction. **08**
- b) Write a detailed note on pathogenesis, and treatment of callus. **08**

Q.5 Answer the following.

- a) Discuss the applications of antigen-antibody reactions in the diagnosis and detection of diseases. **08**
- b) Discuss in detail about Human Repeat Insult Patch Test. **08**

Q.6 Answer the following.

- a) Describe potential causes of tissue damage in the foot. **08**
- b) Discuss in detail oral toxicity limit test. **08**

Q.7 Answer the following.

- a) Explain the dermatological testing as per BIS specification patch testing. **08**
- b) Describe phototoxic contact dermatitis, including its clinical features, common causative agents, and pathophysiology. **08**

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VII) (New) (CBCS) Examination: March/April – 2026
Perfumes & Colors (CT701)**

Day & Date: Friday, 17-04-2026
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 in full marks.

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

- 1) Before manufacturing of the perfume _____ process of the source begins.

a) Extraction	b) Blending
c) Collection	d) Aging

- 2) Orris essential oil is obtained from _____ of the plant.

a) flowers	b) rhizomes
c) bark	d) leaf

- 3) The civet cat mainly contains civetone at a concentration between _____.

a) 2.5 to 3.4%	b) 1.2 to 2.5%
c) 3.2 to 4.3%	d) 2.7 to 3.2%

- 4) The primary function of lipcare preparation is _____.

a) healing	b) protection
c) moisturization	d) all of above

- 5) Nail bleaches are used to _____.

a) whiten the nails	b) remove nicotine and ink stains
c) remove discoloration	d) all of above

- 6) Shaving preparations normally contain _____ of perfume.

a) 0.5 %	b) 2.0 %
c) 1.0%	d) 0.7%

- 7) _____ plant has been used as vermifuge.

a) Acacia	b) Cassia
c) Carnation	d) Lilac

- 8) _____ is an example of anionic emulsifying agent.

a) Sorbian monostearate	b) Glyceryl monostearate
c) Triethanolamine stearate	d) Oleyl alcohol

Q.7 Answer the following.

- a)** Give classification of perfume based on olfactive fragrance. **08**
- b)** Write in detail adaptation and incorporation of perfume and colour in hair colorants and dyes. **08**

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VII) (New) (CBCS) Examination: March/April – 2026
Cosmetic Technology- V (CT702)**

Day & Date: Monday, 20-04-2026
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 correct alternative.**10**

- 1) Baby shampoos are usually formulated with _____.
 - a) Anionic surfactant
 - b) Amphoteric surfactant
 - c) Strong Alkali
 - d) Coal tar

- 2) Which evaluation method measures foam height of shampoo?
 - a) Dirt dispersion test
 - b) Ross-miles foam column method
 - c) Drop test
 - d) Comb test

- 3) Hair dressings are mainly _____.
 - a) Oil-based products for grooming and shine
 - b) Shampoos with extra surfactant
 - c) Bleaches
 - d) Hair colorants

- 4) Hair setting lotions generally work by _____.
 - a) Breaking disulfide bonds permanently
 - b) Forming a polymer film on hair surface
 - c) Dissolving cuticle layers
 - d) colouring the cortex

- 5) Cationic conditioners act by _____.
 - a) Penetrating cortex and changing bonds
 - b) Neutralising negative charges on hair cuticle
 - c) Providing color
 - d) Stripping oils

- 6) Hair Straightening preparations act mainly by _____.
 - a) Breaking and rearranging disulfide bonds in keratin
 - b) Adding oils to coat hair
 - c) Coloring cuticle
 - d) Conditioning scalp only

- 7) The main function of a hair thickener in tonics/conditioners is ____.
- To permanently increase hair number
 - To swell hair shaft for temporary fullness
 - To dissolve oils
 - To straighten hair permanently
- 8) Hydrogen Peroxide functions in permanent dyes as ____.
- Alkalizer
 - Developer and oxidising agent
 - Solvent
 - Preservatives
- 9) Vegetable dye henna contains the coloring principle ____.
- Lawsonia
 - PPD
 - Indigo
 - Resorcinol
- 10) The pH of permanent hair dye formulations is usually ____.
- Acidic (pH 3-5)
 - Alkaline (pH 9-10)
 - Neutral (pH 7)
 - Slightly acidic (pH 6-6.5)

B) Write true or false.

06

- Non-ionic Surfactants produce more foam than anionic surfactants.
- Hair dressings are applied before hair styling for cleansing purposes.
- Hair tonics are mainly alcoholic or aqueous solutions.
- Semi-permanent dyes penetrate deeply into the cortex permanently.
- The hot comb method involves chemical bond breaking.
- Permanent dyes form colour molecules inside the hair cortex

Q.2 Answer the following.

16

- Write note on bleaching and lightening.
- Write short note on Hot comb method.
- Explain in detail the formulation of brilliantines
- Explain in detail detergency in shampoo.

Q.3 Answer the following.

- Explain the process of hair coloring.
- Explain the chemistry behind hair straightening.

08

08

Q.4 Answer the following.

- Discuss Aromatic polyhydroxy compounds and vegetable hair dyes.
- Write a detailed note on formulation of medicated hair tonics.

08

08

Q.5 Answer the following.

- Explain in detail temporary hair dyes along with its formulations.
- Explain Any 2 types of women's hair dressings with examples.

08

08

Q.6 Answer the following.

- a) Describe formulation of baby and aerosol shampoos. **08**
- b) Explain use and purpose of hair dressings. Add a note on Aerosol hair styling product. **08**

Q.7 Answer the following.

- a) Define Auxiliary surfactants used in shampoos and explain it in detail. **08**
- b) Explain in detail safety of shampoo. **08**

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VII) (New) (CBCS) Examination: March/April – 2026
Quality Assurance Techniques (CT703)**

Day & Date: Wednesday, 22-04-2026
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

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

Q.1 A) Choose correct alternative.**10**

- 1) In evaluation of cream, the dye test is performed to check _____.
 - a) viscosity
 - b) type of emulsion
 - c) pH
 - d) spreadability
- 2) The function of quality assurance is _____.
 - a) to monitor all validation activities
 - b) to prepare annual product quality
 - c) to prepare quality policy
 - d) all of the above
- 3) ICH stand for _____.
 - a) International conference on harmonization
 - b) International conference on health
 - c) International conference on hospital
 - d) International conference on health professionals
- 4) Ross miles apparatus is used to test _____.
 - a) pH
 - b) foaming character
 - c) viscosity
 - d) spreadability
- 5) FAT protocol content contains _____.
 - a) document approval
 - b) data storage
 - c) validation file
 - d) input signals
- 6) _____ rays are used to view inside of bodies and objects.
 - a) X-rays
 - b) gamma
 - c) ultraviolet
 - d) visible
- 7) Quality control is carried out _____.
 - a) during production
 - b) before production
 - c) after production
 - d) all of above

- 8) _____ is a coil that produces a short powerful pulse of radio waves.
 a) Radio frequency receiver b) Radio frequency transmitter
 c) Magnetic coil d) Sweep generator
- 9) _____ change in assay from its initial value is acceptable in stability testing.
 a) 2 % b) 5 %
 c) 4 % d) 6 %
- 10) _____ is an example of quality assurance.
 a) verification b) qualification
 c) validation d) deviation

B) Write True or False. 06

- 1) Turbidimetry is the technique which measures the light scattered through 90°.
- 2) The normal storage condition has been defined by WHO.
- 3) Change control can be refused if it is acceptable to any related department.
- 4) The pH of skin cream should be 4 to 9 as per BIS.
- 5) Stability of finished product depends on pH.
- 6) The raw material which do not have IS standard are normally analysed as per I.P.

Q.2 Answer the following. 16

- a) Write a short note on evaluation of toothpaste.
- b) Explain role of stability testing.
- c) Write a note on separation Techniques.
- d) Differentiate between quality assurance and quality control.

Q.3 Answer the following. 08

- a) Explain Gel filtration chromatography. 08
- b) Write a note on intermediate testing condition. 08

Q.4 Answer the following. 08

- a) Explain real time stability testing and accelerated stability testing. 08
- b) Explain in detail Qualification. 08

Q.5 Answer the following. 08

- a) Describe the evaluation parameters of skin creams. 08
- b) Explain instrumentation and working of Nephelometry. 08

Q.6 Answer the following. 08

- a) Explain principle, instrumentation and applications of NMR spectroscopy. 08
- b) Explain in detail evaluation tests for lipstick. 08

Q.7 Answer the following.

- a) Explain validation and types of process validations.**
- b) Explain in detail stability testing.**

08

08

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Semester - VII) (New) (CBCS) Examination: March/April – 2026
Herbal Cosmetics - I (CT704)**

Day & Date: Friday, 24-04-2026
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- 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 diagram wherever necessary.

Q.1 A) Choose correct alternative.**10**

- 1) The biological source of Amla is _____.
a) Eclipta prostrata b) Phyllanthus emblica
c) Centella d) Ocimum sanctum
- 2) _____ is the chief active chemical constituent of Jeshthimadh.
a) Atropine b) Glycyrrhizin
c) Quinine d) Curcumin
- 3) _____ Drug contain Lawson is an active chemical constituent.
a) Turmeric b) Henna
c) Aloe d) Neem
- 4) _____ Method is used to extract essential oils.
a) Soxhlet b) Maceration
c) Fermentation d) Steam distillation
- 5) Which of the following is NOT a trend in herbal cosmetics?
a) Personalized skincare b) Artificial preservatives
c) Use of plant-based activities d) Organic fomulations
- 6) *Curcuma longa* is the botanical name of _____.
a) Garlic b) Neem
c) Haldi d) Ritha
- 7) During the storage of herbs, the area should be _____.
a) Dry and clean b) High temperature
c) Excess humidity d) All of the above
- 8) The principle of maceration involves _____.
a) Boiling the drug in water for a fixed time
b) Passing solvent through the drug under pressure
c) Soaking the drug in a solvent at room temperature to extract active constituents
d) Grinding the drug with solvent to reduce particle size

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**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VII) (New) (CBCS) Examination: March/April – 2026
Material Management & Inventory Control (CT707)**

Day & Date: Monday, 27-04-2026
Time: 11:00 AM To 02:00 PM

Max. Marks: 80

- Instructions:** 1) Question no. 1 & 2 are compulsory.
2) Attempt any Three questions from Q. No. 3 to Q. No 7.
3) Figures to right indicates full marks.

Q.1 A) Choose correct alternative. 10

- 1) The term 'inventory' originates from the French word 'Inventaire' and the Latin word...?
 - a) Inventum
 - b) Inventariom
 - c) Invenire
 - d) Invictus
- 2) FSN analysis is useful in controlling obsolescence because it classifies items based on _____.
 - a) Their unit value
 - b) Their source of supply
 - c) The pattern of issues from stores
 - d) Their criticality to production
- 3) What does VED analysis stand for in inventory control?
 - a) Valuable, Essential, Disposable
 - b) Vital, Economic, Desirable
 - c) Vital, Essential, Desirable
 - d) Very, Extra, Dutiable
- 4) In ABC analysis, which category of items represents a high percentage of the total value but a low percentage of the total number of items?
 - a) A group item
 - b) B group items
 - c) C group items
 - d) All of the above equally
- 5) Which of the following best defines "materials" in the context of production?
 - a) Only the final products ready for sale
 - b) Inputs into the production process, including raw materials, work-in-progress, and spare parts
 - c) The capital and equipment used in a factory
 - d) The labour force and management staff

- 6) Under the scope of materials management, the "3S" refers to _____.
a) Sourcing, Supply, and Shipping
b) Standardization, Simplification, and Specifications
c) Stores, Stock, and Sales
d) System, Service, and Support
- 7) Which time-series pattern exists when a series is influenced by factors such as the quarter of the year or the day of the week?
a) Trend
b) Cyclic
c) Seasonal
d) Irregular
- 8) Which valuation method suffers from an extreme amount of calculations due to referring to past records over a long period like a quarter or a year?
a) Simple Average Price Method
b) Periodic Average Price Method
c) Replacement Price Method
d) Standard Cost Method
- 9) The text states that the person who holds responsibility for all happenings in the store and must periodically verify all stocks is the _____.
a) Chief Financial Officer
b) Internal Auditor
c) Stores Manager
d) Production Supervisor
- 10) Which of the following is NOT listed as a cause for stock discrepancy?
a) Pilferage
b) Deterioration due to natural causes
c) Efficient use of materials
d) Untrained individuals handling paperwork

B) Write True or False.**06**

- 1) Pilferage is a cause for stock discrepancy.
- 2) Trend is a time series pattern affected by quarter of the year
- 3) Furniture is considered as a non-consumable item.
- 4) SDE analysis is dependent on scarcity & procurement difficulty.
- 5) In the formula of EOQ, 'O' stands for 'Overall quantity'.
- 6) Taiichi Vinu is considered as the Father of JIT.

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

- a) Define materials & material management.
- b) Define & classify Inventory. Give any two objectives of inventory control.
- c) Give any four functions of store manager.
- d) Define consumer & buyer.

Q.3 Answer the following.

- a) Write the functions of material management. **08**
- b) Explain any two techniques of selective inventory control. **08**

- Q.4 Answer the following.**
- a) Give the list of various documents cum registers maintained by the store department. **08**
 - b) Write a note on Management Information system (MIS) **08**
- Q.5 Answer the following.**
- a) Give the aims & objectives of material management. **08**
 - b) What is budgeting & forecasting? **08**
- Q.6 Answer the following.**
- a) Differentiate between consumer & customer. **08**
 - b) What is tender? Explain its types. **08**
- Q.7 Answer the following.**
- a) Give the general criteria for layout of stores. **08**
 - b) Discuss legal aspects of purchasing. **08**

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VIII) (New) (CBCS) Examination: March/April - 2026
Colours in Cosmetics (CT801)**

Day & Date: Friday, 17-04-2026
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

Instructions: 1) Q. No. 1 and 2 are compulsory.
2) Attempt any three questions from Q. No. 3 to Q. No. 7.

Q.1 A) Choose correct alternative. 10

- 1) _____ is a coloured or white chemical compound that is insoluble in a particular solvent.
 - a) Dye
 - b) Pigment
 - c) Lake
 - d) Toner
- 2) Colours exempt from FDA certification include _____.
 - a) synthetic dyes
 - b) Natural colours
 - c) coal tar dyes
 - d) Azo dyes
- 3) Which of the following is an example of an inorganic pigment?
 - a) Indigo
 - b) Alizarin
 - c) Chlorophyll
 - d) Titanium dioxide
- 4) Colour matching is commonly done using a _____.
 - a) thermometer
 - b) spectrophotometer
 - c) Brookfield viscometer
 - d) pH meter
- 5) Water-soluble dyes are used in _____ systems.
 - a) oil based products
 - b) aqueous products
 - c) solid wax
 - d) powders
- 6) The first step in azo dye manufacturing is _____.
 - a) coupling
 - b) drying
 - c) diazotization
 - d) filtration
- 7) A lake is an organic pigment prepared by precipitating a _____ dye.
 - a) Insoluble
 - b) Soluble
 - c) Both a & b
 - d) None of the above
- 8) _____ method is not suitable for quality documentation.
 - a) Visual
 - b) Objective
 - c) Instrumental
 - d) None of the above

- 9) Pigments are mainly used in _____ products.
a) transparent b) creams & powders
c) aerosol d) liquid
- 10) Based on chemical structure Azo dyes contains _____ group.
a) -COOH b) -OH
c) -N=N- d) -NH₂

B) Write True or False.**06**

- 1) Organic pigments are always more stable than inorganic pigments.
- 2) Dye can directly penetrate & bind to substrate.
- 3) Filtration is not required in dye manufacturing.
- 4) Iron oxides colours may slightly darker over time.
- 5) Heat fastness of pigments are resistance to removal by washing.
- 6) The short wavelength produce violet & blue colours.

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

- a) Define colours and write a note on colour system.
- b) Describe UV-visible spectrophotometry for analysis of dyes.
- c) Write any two methods of preparation of dyes.
- d) Classify colours based on animal sources.

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

- a) Give a detailed account of the classification of colours obtained from natural sources.
- b) Describe the classification of synthetic dyes.

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

- a) Explain in detail about colour wheel.
- b) Discuss classification of colours based on chemical structure.

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

- a) Explain in detail the hydrogenation of citronellal.
- b) Discuss in detail about body of the perfume.

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

- a) Write down the factors affecting colour matching.
- b) Describe in detail the incorporation of colours in skin & hair care products.

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

- a) Discuss oxidation & lake formation method of preparation of pigments.
- b) Describe the objective method of determination of colours.

Seat No.	
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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VIII) (New) (CBCS) Examination: March/April –2026
Cosmetic Technology- VI (CT802)**

Day & Date: Monday, 20-04-2026
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 correct alternative.**10**

- 1) Athlete's foot is caused by _____.
 - a) Virus
 - b) Bacteria
 - c) Fungus
 - d) Parasite
- 2) Callus formation is due to _____.
 - a) Infection
 - b) Pressure
 - c) Virus
 - d) Water
- 3) The function of a base coat is _____.
 - a) Shine
 - b) Adhesion
 - c) Removal
 - d) Fragrance
- 4) Fluoride prevents _____.
 - a) Staining
 - b) Caries
 - c) Odor
 - d) Foam
- 5) An example of a physical sunscreen is _____.
 - a) Avobenzone
 - b) Zinc oxide
 - c) PABA
 - d) Oxybenzone
- 6) PABA is _____.
 - a) Physical blocker
 - b) Chemical absorber
 - c) Fragrance
 - d) Preservative
- 7) Which fatty acid gives best lather stability in shaving creams?
 - a) Oleic acid
 - b) Stearic acid
 - c) Lauric acid
 - d) Linoleic acid
- 8) Pearl effect in nail polish is due to _____.
 - a) Mica
 - b) Talc
 - c) Silica
 - d) Wax
- 9) Which alkali is commonly used in shaving creams?
 - a) Sodium hydroxide
 - b) Potassium hydroxide
 - c) Calcium hydroxide
 - d) Magnesium hydroxide

- 10) Which is a commonly used abrasive?
- a) Silica
 - b) Glycerine
 - c) Alcohol
 - d) Wax

B) Write true or false. 06

- 1) Brushless creams produce rich foam.
- 2) Toothpaste should be highly acidic.
- 3) Corns are caused by viral infection.
- 4) SPF indicates protection against UVA rays.
- 5) Triethanolamine can act as neutralizing agent in shaving creams.
- 6) Foot deodorants only mask Odor without affecting bacteria.

Q.2 Answer the following. 16

- a) Explain in detail formulation of Toothpaste.
- b) Explain in detail Foot powder and Foot Spray.
- c) Add note on formulation of Sunscreen.
- d) Write note on Beard softening cream.

Q.3 Answer the following. 16

- a) Explain Denture Cleansers. What and basic requirement of Dentifrices. Add short note on Solid dentifrices.
- b) Explain in detail Cuticle remover and Nail bleach.

Q.4 Answer the following. 16

- a) Add note on Lather shaving cream and Aerosol shaving foam.
- b) Explain corn and callus preparations. Add note on chilblain preparations.

Q.5 Answer the following. 16

- a) Discuss in detail formulation and manufacture of Nail lacquer.
- b) Explain Novel composition for Wet shaving. Add note on Brushless or non-lathering cream.

Q.6 Answer the following. 16

- a) Discuss pre-electric shave lotion and pre-electric shave powder.
- b) Explain beneficial and adverse effect of sunlight. Add note on protective mechanism of the skin.

Q.7 Answer the following. 16

- a) Write a detailed note on Aerosol mouth Freshener. Write in detail about formulation and manufacture of Toothpowder.
- b) Explain in detail Nail cream and Nail strengthener.

Seat No.	
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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VIII) (New) (CBCS) Examination: March/April – 2026
Cosmeceuticals Microbiology (CT803)**

Day & Date: Wednesday, 22-04-2026
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) Draw neat labelled diagrams wherever necessary.

Q.1 A) Choose correct alternative.**10**

- 1) Sanitizers are mainly used to _____.
 - a) Sterilize completely
 - b) Reduce microbial load to safe levels
 - c) Promote growth
 - d) Identify microbes

- 2) Phenol acts by _____.

a) Alkylation	b) Oxidation
c) Protein denaturation	d) Cell division

- 3) Which structure helps in bacterial motility?

a) Capsule	b) Flagella
c) Ribosome	d) Plasmid

- 4) The major elements required by microorganisms include _____.
 - a) Carbon, hydrogen, oxygen, nitrogen
 - b) Gold, silver, copper
 - c) Only oxygen
 - d) Only nitrogen

- 5) Imperfect fungi are called _____.

a) Zygomycetes	b) Ascomycetes
c) Deuteromycetes	d) Basidiomycetes

- 6) Attachment of virus to host cell is known as _____.

a) Penetration	b) Adsorption
c) Replication	d) Assembly

- 7) Which of the following is an example of algae?

a) Amoeba	b) Spirogyra
c) Rhizopus	d) Yeast

- 8) Viral genome may consist of _____.

a) Both DNA and RNA	b) Either DNA or RNA
c) Only proteins	d) Only lipids

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VIII) (New) (CBCS) Examination: March/April – 2026
Herbal Cosmetics-II (CT804)**

Day & Date: Friday, 24-04-2026
Time: 03:00 PM To 06:00 PM

Max. Marks: 80

- 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 wherever necessary.

Q.1 A) Choose correct alternative.**10**

- 1) In percolation, the solvent _____.
 - a) Boils continuously
 - b) Passes slowly through the drug
 - c) Is frozen
 - d) Is evaporated

- 2) Infusion is commonly used for _____.
 - a) Hard bark
 - b) Soft plant parts
 - c) Metals
 - d) Minerals

- 3) The active compound found in Curry leaves that supports hair pigmentation is _____.
 - a) Linalool
 - b) Beta-carotene
 - c) Mahanimbine
 - d) Eugenol

- 4) _____ is the ideal pH range for skin creams and lotions to maintain skin barrier integrity?
 - a) 3.0-3.5
 - b) 4.5-6.0
 - c) 6.5-8.0
 - d) 8.0-9.5

- 5) Bhringraj is botanically known as _____.
 - a) *Eclipta prostrata*
 - b) *Eclipta alba*
 - c) *Centella asiatica*
 - d) *Bacopa monnieri*

- 6) The main chemical constituent responsible for the colouring property of Manjistha is _____.
 - a) Curcumin
 - b) Rubiadin
 - c) Alizarin
 - d) Berberine

- 7) Which of the following is a key consideration when incorporating herbal extracts into a shampoo formulation?
 - a) Oil compatibility
 - b) UV absorption
 - c) pH stability
 - d) Cooling effect

- 8) Traditional method of extraction is _____.
 a) Supercritical fluid extraction
 b) Soxhlet extraction
 c) Microwave-assisted extraction
 d) Ultrasonic extraction
- 9) Which herb is used in herbal shampoo as a natural conditioner?
 a) Henna
 b) Reetha
 c) Tulsi
 d) Clove
- 10) Which ingredient acts as a humectant in conditioner?
 a) Glycerine
 b) Talc
 c) Kaolin
 d) Zinc oxide

B) Write True or False.**06**

- 1) Kesar is obtained from the stigma of *Crocus sativus*.
- 2) Maceration requires continuous boiling.
- 3) Supercritical fluid extraction commonly uses carbon dioxide.
- 4) Ointments are semi-solid preparations.
- 5) Shikakai is used in hair packs for cleansing.
- 6) Hibiscus is obtained from the flowers of *Hibiscus rosa-sinensis*.

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

- a) Write the chemical constituent of bhringraj and palash.
- b) How will you prepare Herbal hair oil?
- c) Write down the chemical constituent of Kesar and write down any one formulation in skin care.
- d) Explain decoction and infusion.

Q.3 Answer the following.

- a) Explain Maceration and types of maceration in detail. **08**
- b) Write down the Biological source, geographical source, chemical constituents and uses of pomegranate and write down any one formulation of pomegranate. **08**

Q.4 Answer the following.

- a) Write the biological source, geographical source chemical constituent and uses of Grape fruit. **08**
- b) Write a note on herbal hair tonic and hair pack. **08**

Q.5 Answer the following.

- a) Write down the biological source, chemical constituents and uses of Raktachandan. **08**
- b) Write down the Biological source, chemical constituents and uses of neem. **08**

Q.6 Answer the following.

- a) Explain preparation of cream and lotion by incorporating Herbal Ingredients. **08**
- b) Describe steam distillation. **08**

Q.7 Answer the following.

- a) Write down the Biological source, geographical source, chemical constituents and uses of Lotus and write down any one formulation. **08**
- b) Explain percolation in detail and add a note on solvent used for extraction. **08**

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - VIII) (New) (CBCS) Examination: March/April – 2026
Management and Organizational Behavior (CT806)**

Day & Date: Monday, 27-04-2026
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) Draw neat labelled diagrams wherever necessary.
 - 4) Figures to the right indicate full marks.

Q.1 A) Multiple Choice Questions.**10**

- 1) Identify the purpose of management _____.
 - a) To remove industrial dispute
 - b) Over utilization of resources
 - c) To eliminate competition
 - d) None of the above

- 2) Identify the management technique proposed by James watt junior and Matthews Robinson.
 - a) Planned machine layout
 - b) Provision for welfare for personnel
 - c) Standardization of component
 - d) All the above

- 3) Operational planning is _____.
 - a) a short term plan made at departmental level
 - b) either reactive or proactive
 - c) also known as intermediate plan
 - d) None of the above

- 4) _____ power is derived from certain pleasant personality traits.
 - a) Coercive
 - b) Referent
 - c) Legitimate
 - d) Expert

- 5) Following are the steps associated with controlling except _____.
 - a) Planning
 - b) Fixation of standard
 - c) Corrective action
 - d) Comparison of performance

- 6) An event is generally represented in network by _____.
 - a) An arrow
 - b) A dotted line
 - c) A square
 - d) A circle

- 7) _____ is/are the structural component of quality circles.
 - a) Leader
 - b) Facilitator
 - c) Non-members
 - d) All the above

- 8) Following are the hygiene factors except _____.
- | | |
|------------------|-----------------|
| a) Salary | b) Job security |
| c) Job challenge | d) Status |
- 9) Tactical planning is also called as _____.
- | | |
|-------------------------|--------------------------|
| a) Strategic planning | b) Intermediate planning |
| c) Operational planning | d) None of the above |
- 10) Identify the formal group from below options.
- | | |
|-------------------|--------------------|
| a) Committee | b) Reference group |
| c) Interest group | d) Cliques |

B) Write True or False.

06

- 1) Merry Parker defined the term Management as, 'the art of getting things done through others'.
- 2) Administration concerned with execution of departmental policy.
- 3) Planning is continuous and intellectual process.
- 4) CPM is used for the work which is repetitive in nature.
- 5) Motivation is simple and predictable task.
- 6) 'Need for knowledge' is secondary need.

Q.2 Answer the following.

16

- a) Explain different levels of management.
- b) Describe '5S' of housekeeping.
- c) Explain team and its different types.
- d) Discuss non-financial incentives.

Q.3 Answer the following.

- a) Explain scientific approach of management. **10**
- b) Define management and add a note on functions of management. **06**

Q.4 Answer the following.

- a) Give different theories of group formation. **08**
- b) Elaborate departmentation by product and departmentation by functions. **08**

Q.5 Answer the following.

- a) Describe in detail 'Delegation of authority'. **10**
- b) Explain process of controlling. **06**

Q.6 Answer the following.

- a) Summarize Kaizen Concept. **10**
- b) Differentiate between CPM and PERT. **06**

Q.7 Answer the following.

- a) Write a note on nature of motivation. **08**
- b) Describe 'Maslow's Hierarchy of needs' **08**

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - X) (New) (CBCS) Examination: March/April – 2026
Research Methodology (CT11001)**

Day & Date: Thursday, 16-04-2026
Time: 03:00 PM To 05:00 PM

Max. Marks: 40

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

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

- 1) A good hypothesis must be _____.
 - a) Formulated in such a way that it can be tested by the data
 - b) Precise, specific, and consistent with most known facts
 - c) Of limited scope and must not have global significance
 - d) All of the above

- 2) Field study is related to _____.
 - a) Real life situations
 - b) Laboratory situations
 - c) Experimental situations
 - d) None of the above

- 3) In the word "RESEARCH" "A" means _____.
 - a) Articulate
 - b) Artist
 - c) Article
 - d) None of the above

- 4) Research is based upon _____.
 - a) Rating scale
 - b) Experiments
 - c) General principles
 - d) Scientific methods

- 5) An essential Criterion of Scientific study is called _____.
 - a) Belief
 - b) Value
 - c) Objectivity
 - d) Subjective

- 6) Research through experiment and observation is called _____.
 - a) Clinical Research
 - b) Experimental Research
 - c) Laboratory Research
 - d) Empirical Research

- 7) Research which follows a case study method is called _____.
 - a) Clinical or diagnostic
 - b) Causal
 - c) Analytical
 - d) Qualitative

- 8) _____ is a way to systematically solve the research problem.
 - a) Technique
 - b) Operations
 - c) Research methodology
 - d) Research Process

- Q. Answer any four of the following. 08**
- a) Define Research.
 - b) Write any two characteristics of good research.
 - c) What is Research design?
 - d) Give the difference between technical report and popular report.
 - e) Define sampling.
 - f) What is research report?
- Q.3 Write Short Notes on any two of the following. 08**
- a) Write a note on structure and components of scientific reports.
 - b) Write a note on data presentation.
 - c) Write a note on types of research report with examples.
- Q.4 Answer any two of the following 08**
- a) Describe objective of research.
 - b) Enlist steps in research writing & explain bibliography in detail.
 - c) Explain descriptive & experimental research design.
- Q.5 Answer any one of the following 08**
- a) Describe in detail methods of data collection.
 - b) Describe in detail interpretation and analysis of data.

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**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - IV) (New) (NEP CBCS) Examination: March/April – 2026
Cosmetic Technology - IV (CT01401)**

Day & Date: Friday, 17-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternative.

06

- 1) Baby shampoo differs from adult shampoo because it is _____.
 - a) tear-free and mild
 - b) highly foaming
 - c) strong detergent-based
 - d) pH-neutral

- 2) Arbutin is considered safer because it _____.
 - a) is stronger than hydroquinone
 - b) slowly releases hydroquinone
 - c) contains mercury
 - d) blocks UV rays

- 3) Peel-off masks contain _____.
 - a) sodium chloride
 - b) polyvinyl alcohol (PVA)
 - c) calcium sulphate
 - d) beeswax

- 4) _____ is NOT recommended for diaper rash.
 - a) Frequent diaper change
 - b) Diaper-free time
 - c) Heavy ointments with strong chemicals
 - d) Using zinc oxide cream

- 5) _____ defect in lipstick is caused by oil droplets appearing on the surface.
 - a) Bleeding
 - b) Blooming
 - c) Sweating
 - d) Cratering

- 6) Wax-based systems are _____.
 - a) water soluble
 - b) thermoplastic
 - c) hydrocolloidal
 - d) highly elastic

Q.2 Answer the following. (Any Three)

06

- a) Explain the role of PVA in peel-off masks.
- b) How hydroquinone work in skin-lightening creams?
- c) Give the typical formulations of baby lotion.
- d) Differentiate between cake mascara and liquid mascara.

- Q.3 Answer the Following. (Any Two) 06**
- a) Differentiate between face pack and face mask.
 - b) Classify eye mascara with suitable examples.
 - c) Write down formulation of baby soap, shampoo and powder.
- Q.4 Answer the Following. (Any Two) 06**
- a) Define rouge and state its ideal characteristics.
 - b) Explain any Two skin lightening agents.
 - c) Explain the difference between baby skin and adult skin.
- Q.5 Answer the following questions. (Any One) 06**
- a) Explain briefly vinyl-based peel-off masks.
 - b) Explain the preparation and formulation of skin-lightening creams.

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**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - IV) (New) (NEP CBCS) Examination:
March/April – 2026
Cosmetic Chemistry-IV (Instrumental Methods)- II (CT01402)**

Day & Date: Monday, 20-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternative. 06

- 1) Alkaline solutions have pH value _____.
 - a) less than 7
 - b) 7
 - c) more than 7
 - d) None of the above

- 2) A spectrophotometer can be used in the analysis of samples in _____ range of electromagnetic spectra.
 - a) IR
 - b) Visible
 - c) UV
 - d) All of these

- 3) Identify the correct formula for the Intensity of Incident light.
 - a) $I_t = I_o + I_a + I_r$
 - b) $I_o = I_t + I_a + I_r$
 - c) $I_r = I_o + I_a + I_t$
 - d) $I_a = I_o + I_t + I_r$

- 4) When a mole of electrolyte is dissolved *in a* solution then the conductivity produced is called _____ conductivity.
 - a) Unknown
 - b) Equivalent
 - c) Specific
 - d) Molar

- 5) Which of the following can be used for quantitative analysis?
 - a) Potentiometric Titration
 - b) Conductometric Titration
 - c) Colorimetry
 - d) All of the above

- 6) Among all the cations _____ has the highest value of conductance.
 - a) NH_4^+
 - b) H^+
 - c) K^+
 - d) Na^+

Q.2 Answer the Following. (Any Three) 06

- a) Define pH. Write its unit and explain pH scale.
- b) Explain the role of monochromators used in colorimetry and give its examples.
- c) Enlist different types of Conductivity cells and explain any one of them.
- d) Explain the principle of Potentiometry.
- e) Explain Lambert Beers Laws.

- Q.3 Answer the Following. (Any Two) 06**
- a) Draw a block diagram of the pH meter and explain its working.
 - b) Explain colorimetry and its principle.
 - c) Explain the various methods for locating end point in potentiometric titrations.
- Q.4 Answer the Following. (Any Two) 06**
- a) Explain in detail, Calomel electrode.
 - b) Define conductance and explain the principle of conductometric titrations.
 - c) Explain the applications of pH meter.
- Q.5 Answer the following questions. (Any One) 06**
- a) Explain different types of conductometric Acid-base titration curves.
 - b) Draw the circuit diagram of Wheatstone bridge and explain its principle.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Sem - IV) (New) (NEP CBCS) Examination: March/April - 2026
Unit Operations - II (CT01405)**

Day & Date: Wednesday, 22-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternatives.**06**

- 1) In _____ heat is transferred by vibration of atoms.
 - a) Radiation
 - b) Conduction
 - c) Vacuum
 - d) Convection

- 2) In a wet solid mass water may be present as _____ water.
 - a) liquid and vapour
 - b) free and fix
 - c) bound and unbound
 - d) none of the above

- 3) _____ is the amount of water vapour present in the air.
 - a) Humidity
 - b) Humid volume
 - c) Dew point
 - d) All of the above

- 4) _____ are responsible for winds, land breeze, ocean currents, etc.
 - a) Chemical reaction
 - b) Electromagnetic waves
 - c) Convection currents
 - d) All the above

- 5) If solids are present in the liquid to be mixed, the baffles are fixed with a gap of about _____ between the baffle and the tank surface.
 - a) 10 mm
 - b) 20 mm
 - c) 25 mm
 - d) 35 mm

- 6) Tumbling action promotes the inter particulate movement due to _____ force.
 - a) Gravitational
 - b) Electrical
 - c) Vacuum
 - d) Compression

Q.2 Answer the following. (Any Three)**06**

- a) Write applications of air conditioning in cosmetic industry?
- b) Define saturated air.
- c) Define air conditioning.
- d) Draw a neat labelled diagram of V-cone blender?
- e) Define unbound water.

- Q.3 Answer the following. (Any Two) 06**
- a) Write down the steps in solid-solid mixing process.
 - b) Explain natural convection.
 - c) Write a note on baffles.
- Q.4 Answer the following. (Any Two) 06**
- a) Write a note on black body.
 - b) Write a note on wet bulb temperature.
 - c) Draw a neat labelled diagram of fluidised bed dryer.
- Q.5 Answer the following. (Any One) 06**
- a) Write the principle, construction, working, advantages, disadvantages and draw a neat labelled diagram of a tray dryer.
 - b) Write a note on liquid-to-liquid heat interchange, with diagram.

Seat No.	
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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Semester - IV) (New) (NEP CBCS) Examination: March/April – 2026
English (CT-ENG-401)**

Day & Date: Friday, 24-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternative from the following. 06

- 1) The poem "Hunger" is written by _____.
a) Agha Shahid Ali b) Jayant Mahapatra
c) Padma Sachdev d) Rabindranath Tagore
- 2) "The Right Image" mainly deals with _____.
a) Nature b) identity
c) hunger d) childhood
- 3) In "Sunrise", the poet describes _____.
a) war b) beauty of morning
c) poverty d) loneliness
- 4) "The Nation" is written by _____.
a) A.P.J. Abdul Kalam b) Sudha Murty
c) Rabindranath Tagore d) Reena Shah
- 5) According to "Unity of Mind", unity is important for _____.
a) division b) progress of nation
c) destruction d) isolation
- 6) Sudha Murty is known for her _____.
a) acting b) social work
c) politics d) sports

Q.2 Answer the Following. (Any Two) 06

- a) Explain the theme of the poem "Hunger".
- b) What message does "The Right Image" convey?
- c) Describe the importance of unity in "Unity of Mind".
- d) Explain how Sudha Murty inspires people through her work and values.

Q.3 Write short notes. (Any One) 06

- a) Poetic imagery in "Sunrise"
- b) Childhood memories in "The House of My Childhood"

Q.4 Answer the Following. (Any One)

12

- a)** Explain what “Unity of Mind” means according to A. P. J. Abdul Kalam. Also explain how unity among people helps in the progress and development of a nation.

OR

- b)** Explain the ideas of Rabindranath Tagore about the nation in the lesson “The Nation”. What message does he give about true nationalism?

Seat No.	
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Set	P
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**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Semester - IV) (New) (NEP CBCS) Examination: March/April – 2026
Biomolecules - II (CT01406)**

Day & Date: Monday, 27-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternatives. (MCQ) 06

- 1) _____ Wax is the most important plant wax.
 - a) Bees wax
 - b) Shellac wax
 - c) Carnauba wax
 - d) None of these
- 2) Ascorbic acid is the chemical name of _____ vitamin.
 - a) Vit - A
 - b) Vit - B
 - c) Vit - C
 - d) None of these
- 3) _____ vitamin is water soluble.
 - a) Vit - C
 - b) Vit - B
 - c) Both a & b
 - d) None of these
- 4) _____ is a hard glistening and translucent object.
 - a) Pearl
 - b) Lipid
 - c) Vitamin
 - d) None of these
- 5) PEG humectant has molecular weight between _____.
 - a) 200 - 2000
 - b) 400 - 4000
 - c) 600 - 6000
 - d) None of these
- 6) _____ fatty acids are those which cannot be synthesized by human body.
 - a) Essential
 - b) Non - essential
 - c) Both a & b
 - d) None of these

Q.2 Answer the following. (Any Three) 06

- a) Define the term pearls.
- b) Name the types of humectants.
- c) Define dry skin.
- d) Name two types of lipids.
- e) Give two examples of fatty acids.

- Q.3 Answer the following. (Any Two) 06**
- a) Discuss in detail production methods of fatty acids.
 - b) Explain humectants in detail.
 - c) Explain the uses of Vitamins in cosmetics.
- Q.4 Answer the following. (Any Two) 06**
- a) Explain the treatment for dry skin in detail.
 - b) Write a note on Metabolic role of vitamin E.
 - c) Discuss in detail Lanolin.
- Q.5 Answer the following. (Any One) 06**
- a) Define lipids, give the structure of lipids & explain in detail classification of lipids.
 - b) Explain in detail classification & properties of waxes.

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Set **P**

**Five Year Integrated (M. Tech. Course in Cosmetic Technology)
(Semester - IV) (New) (NEP CBCS) Examination: March/April – 2026
Fundamentals of Hair Care (CT01409)**

Day & Date: Wednesday, 29-04-2026
Time: 03:00 PM To 04:30 PM

Max. Marks: 30

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

Q.1 Choose the correct alternative.**06**

- 1) Point cutting in hair cutting is used for _____.
 - a) Layered volume
 - b) Soft textured finish
 - c) Straight blunt ends
 - d) Removing split ends only
- 2) Hair steaming is generally done for _____.
 - a) 2-5 minutes
 - b) 5-10 minutes
 - c) 10-20 minutes
 - d) 30-40 minutes
- 3) Hydration treatments mainly focus on _____.
 - a) Hair coloring
 - b) Moisture balance
 - c) Hair cutting
 - d) Curling hair
- 4) Wet hair services include _____.
 - a) Hair cutting
 - b) Trimming
 - c) Shampooing
 - d) Dry styling
- 5) Blow drying wavy hair should be done using _____.
 - a) High heat and high speed
 - b) Medium heat and diffuser or round brush
 - c) Cold air only
 - d) Roller set only
- 6) Curling iron is mainly used to _____.
 - a) Smooth hair
 - b) Create curls and waves
 - c) Dry hair
 - d) Open cuticles

Q.2 Answer the Following. (Any Three)**06**

- a) Define hair analysis.
- b) What is roller setting?
- c) Name two heat styling tools used in hair treatments.
- d) What is highlighting in hair coloring?
- e) Discuss safety precautions while using heat styling tools.

- Q.3 Answer the Following. (Any Two) 06**
- a) Explain objectives of scalp massage and enlist the name of scalp massage techniques.
 - b) Write in detail about general safety and hygiene measures in hair treatments.
 - c) Explain difference between protein and keratin treatment.
- Q.4 Answer the Following. (Any Two) 06**
- a) Define and explain the types of wigs.
 - b) Write the procedure, importance and hygiene practices of draping in salons.
 - c) Describe the cleaning and storage of wigs.
- Q.5 Answer the following questions. (Any One) 06**
- a) Explain the importance of hair analysis, scalp massage and finishing techniques in professional hairdressing.
 - b) Explain the steps involved in the perming process and after-care instructions.