



Register Number:

Date:

ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
UG – IV SEMESTER
SEMESTER EXAMINATION: APRIL 2017
CH OE 4116 : COSMETIC CHEMISTRY

(For students of BCA, BVC, EJP, EMS, EPS, HEP and IES batch A only)

Time- 1 ½ hrs

Max Marks-35

This paper contains three printed pages and two parts

Part A

Each of the following multiple choice questions has one correct answer. Write the correct option in your answer book. Each question carries ½ mark.

1. Permanent hair colour permeates into which part of the hair
a) epicuticle b) parts of cuticle and cortex c) cortex d) cuticle
2. Lanolin wax is obtained from
a) mineral oil b) essential oil c) wool d) plants
3. The main oxidizing agent used in the color developed during hair dyeing is
a) myristic acid b) resorcinol c) isopropyl alcohol d) hydrogen peroxide
4. A solution of pH=3.5 indicates that it is
a) acidic b) basic c) neutral d) none of these
5. Permanent waving mechanism of hair is due to
a) ionic bond b) covalent bond c) hydrogen bond d) disulphide bond
6. An amino acid that is important in waving of hair is
a) glycine b) proline c) tyrosine d) cysteine
7. Protein is a polymer of
a) fatty acids b) carbohydrates c) lipids d) amino acids
8. Antipruritic agent is used to relieve
a) pain b) itching c) swelling d) none of these
9. Vitamin B₆ is used in antidandruff shampoo because it is an
a) antibacterial agent b) corneocyte desquamating agent
c) antiseborrhic agent d) anti-inflammatory agent
10. Which pigment in the skin protects our bodies from the harmful effects of the sun
a) iron oxide b) titanium oxide c) melanin d) avobenzone
11. Sun protection factor is a measure that indicates how long it takes for UV rays
a) to penetrate protected skin b) to penetrate unprotected skin
c) to redden protected skin d) to redden unprotected skin
12. A _____ is a chemical compound that is soluble in a solvent in which it is dispersed.
a) dye b) pigment c) lake d) gloss

13. Antioxidants are added to lipsticks to prevent
a) reduction b) pigmentation c) rancidity d) acidity
14. The UV range in the electromagnetic spectrum is
a) 180-400 nm b) 400-800 nm c) 180-400 mm d) 300-600 nm
15. The functional group present in a carboxylic acid is
a) –OH b) –COOR c) –COOH d) –CONH₂
16. Which of the following is the causing factor of dandruff?
a) Yeast b) Bacteria c) Virus d) Prion
17. Which of the following is responsible for cancer?
a) UVA radiation b) UVB radiation c) UVC radiation d) All of the above
18. Polyoxyethylene alkyl ether sulphates are examples of
a) cationic surfactants b) anionic surfactants
c) amphoteric surfactants d) non-ionic surfactants
19. Which of the following is used as a corneocyte desquamating agents to treat dandruff?
a) Salicylic acid b) Zinc pyrithione
c) chlorhexidine d) prednisolone
20. A disperse system of two mutually-insoluble liquids is called
a) surfactant b) emollient c) emulsion d) humectant
21. Anionic surfactants are primarily used as ___ agents in cosmetic products.
a) Cleansing b) Conditioning c) drying d) Coloring
22. Glycerin is the gold standard for
a) emollients b) humectants c) emulsions d) surfactants
23. Butylhydroxytoluene(BHT) is an
a) humectant b) emollient c) antioxidant d) surfactant
24. Which of the following lists the steps for the molding process in proper order?
a) Premilling, flaming, melting and mixing, molding
b) Flaming, molding, melting and mixing, premilling
c) Premilling, melting and mixing, molding, flaming
d) Molding, premilling, flaming, melting and mixing
25. Which of the following determine the hardness of sticks?
a) colors b) sunscreens c) fixatives d) waxes
26. The part of the surfactant molecule that has great affinity for oils is
a) lipophilic b) hydrophilic c) amphoteric d) lipophobic
27. Soaps are salts obtained by reaction between
a) lower fatty acids and alkali b) Higher fatty acids and alkali
c) organic base and carboxylic acid d) fatty acid and water
28. Which of the following is TRUE about the enamel?
a) It is the largest part of the human teeth b) It has a blood and nerve supply
c) It is comprised mostly of hydroxyapatite d) It is a soft tissue
29. Eugenol is obtained from
a) clove oil b) geranium c) rose petals d) musk deer

30. The function of abrasives in toothpaste is to
 - a) bleach teeth
 - b) Remove debris and stain
 - c) Remove tartar
 - d) All of the above
31. The main advantage of using artificial sweeteners in toothpaste instead of sugars is that _____.
 - a) They do not contribute to the development of cavities
 - b) They are sweet
 - c) They provide protection against drying out of the formula
 - d) They help maintain the integral structure
32. Toothpaste has a special rheology called _____.
 - a) Shear-thickening
 - b) Thixotropy
 - c) Bingham plastic behaviour
 - d) Newtonian behaviour
33. Sodium monofluorophosphate can prevent tooth decay via the following mechanism:
 - a) Slowing down demineralization
 - b) Eliminating the bacteria in the oral cavity
 - c) Forming fluorohydroxyapatite in the enamel
 - d) a and c
34. What is the function of plasticizers in nail polish formulations?
 - a) To increase the viscosity of the formulations
 - b) To keep resins soft and flexible
 - c) To dissolve resins
 - d) To improve the adhesion of the products to the nails
35. Talc used to make talcum powder is
 - a) hydrated aluminium silicate
 - b) hydrated magnesium silicate
 - c) hydrated iron oxide
 - d) hydrated titanium oxide
36. A natural perfume obtained from animal source is
 - a) Santene
 - b) damascenone
 - c) civetone
 - d) limonene
37. Which of the following is a soap?
 - a) $C_{17}H_{35}C_6H_4SO_3Na$
 - b) CH_3COONa
 - c) $C_3H_8O_3$
 - d) $C_{18}H_{37}COONa$
38. Which of the following has a rose-like scent and is commonly used in perfumes?
 - a) eugenol
 - b) menthol
 - c) geraniol
 - d) muscone
39. Hardness of water is mainly due to
 - a) potassium and sodium salts
 - b) aluminium and manganese salts
 - c) Calcium and potassium salts
 - d) Calcium and magnesium salts
40. What is one environmental problem associated with the use of detergents?
 - a) photochemical smog
 - b) erosion
 - c) global warming
 - d) eutrophication

Part B

Answer any three of the following. Each question carries 5 marks.

41. Write a note on surfactants used in cosmetics.
42. What are sunscreen lotions/creams? Give examples. What is their mode of action?
43. Explain different steps involved in the molding technique to produce lipstick.
44. Explain the cleansing action of soaps.
45. What are the principal constituents of shampoo and explain the role of each of them.
