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प्रश्नपुस्तिका क्रमांक
Question Booklet No.

O.M.R. Serial No. | | | | | | | | |

प्रश्नपुस्तिका सीरीज
Question Booklet Series
C

M.Sc Industrial Chemistry (Third Semester) Examination, February/March-2022
MSIC-304
Essentials Oils, Dyes and Paints

Time : 1:30 Hours **Maximum Marks-100**

जब तक कहा न जाय, इस प्रश्नपुस्तिका को न खोलें

निर्देश : –

1. परीक्षार्थी अपने अनुक्रमांक, विषय एवं प्रश्नपुस्तिका की सीरीज का विवरण यथास्थान सही– सही भरें, अन्यथा मूल्यांकन में किसी भी प्रकार की विसंगति की दशा में उसकी जिम्मेदारी स्वयं परीक्षार्थी की होगी।
2. **इस प्रश्नपुस्तिका में 100 प्रश्न हैं, जिनमे से केवल 75 प्रश्नों के उत्तर परीक्षार्थियों द्वारा दिये जाने है। प्रत्येक प्रश्न के चार वैकल्पिक उत्तर प्रश्न के नीचे दिये गये हैं। इन चारों में से केवल एक ही उत्तर सही है। जिस उत्तर को आप सही या सबसे उचित समझते हैं, अपने उत्तर पत्रक (O.M.R. ANSWER SHEET)में उसके अक्षर वाले वृत्त को काले या नीले बाल प्वांइट पेन से पूरा भर दें। यदि किसी परीक्षार्थी द्वारा निर्धारित प्रश्नों से अधिक प्रश्नों के उत्तर दिये जाते हैं तो उसके द्वारा हल किये गये प्रथमतः यथा निर्दिष्ट प्रश्नोत्तरों का ही मूल्यांकन किया जायेगा।**
3. प्रत्येक प्रश्न के अंक समान हैं। आप के जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।
4. सभी उत्तर केवल ओ०एम०आर० उत्तर पत्रक **(O.M.R. ANSWER SHEET)** पर ही दिये जाने हैं। उत्तर पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।
5. ओ०एम०आर० उत्तर पत्रक **(O.M.R. ANSWER SHEET)** पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाय।
6. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी प्रश्नपुस्तिका बुकलेट एवं ओ०एम०आर० शीट पृथक–पृथक उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें।
7. निगेटिव मार्किंग नहीं है।

महत्वपूर्ण : – **प्रश्नपुस्तिका खोलने पर प्रथमतः जॉच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभॉति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्ष निरीक्षक को दिखाकर उसी सीरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।**

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1. High evaporation residue indicates :

(A) Addition of foreign materials

(B) Pure essential oil

(C) Addition of useful materials

(D) Removal of useful materials

2. Congealing point is a temperature :

(A) At which oil starts flowing

(B) At which oil ceases to flow

(C) Does not have any effect in viscosity of oil

(D) At which oil becomes solid

3. Following methods are not used for solubility in non-alcoholic media :

(A) CS_2 solubility for presence of water

(B) Potassium hydroxide solubility for phenol-containing oil

(C) Sodium bi Sulfide solubility for aldehyde containing oil

(D) Sodium hydroxide solubility for aldehyde containing oil

4. Generally most essential oil is :

(A) Highly soluble in water and alcohol

(B) Slightly soluble in water and immiscible with absolute alcohol

(C) Slightly soluble in water and miscible with absolute alcohol

(D) Highly soluble in water and immiscible in alcohol

5. Molecular refractivity is influenced by :

(A) Presence of double and triple bond

(B) No effect of double and triple bond

(C) Presence of single bond

(D) No effect of any type of bond

6. Rotation angle does not depends upon :

(A) Nature of liquid

(B) Column length through which light passes

(C) Wavelength of light used and temperature

(D) Pressure used

7. Specific gravity of EOs at 15°/25° may be defined as ratio of :

(A) Weight of given vol. of oil at 15℃ to that of equal vol. of water at 25℃

(B) Weight of oil at 25℃ and weight of water at 150℃

(C) Weight of oil and water weight at 15℃

(D) Weight of given vol. oil and water at 15℃

8. Total yield of highly saturated pomade is less than the fat corps originally applied to the chasis :

(A) 20%

(B) 40%

(C) 5%

(D) 10%

9. Most highly saturated pomade is :

(A) Pomade number 24

(B) Pomade number 20

(C) Pomade number 36

(D) Pomade number 28

10. Success of infleurage depends upon :

(A) Quality of fat base employed and its consistency

(B) Softness of fat corp

(C) Hardness of fat corp

(D) Quality of fat base with very soft fat base

11. Prepared fat corp is :

(A) Black, rough, non uniform consistency

(B) Black, smooth, non-uniform consistency

(C) White, smooth, absolutely of uniform consistency

(D) White, rough, non-uniform consistency

12. Alcohol as a Solvent :

(A) Can be used for extraction of oil from fresh flowers

(B) Can not be used for extraction of oil from fresh flowers

(C) Can not dissolves the H_2O contained in the plant materials

(D) Can not be used for extraction of leaves, gums etc.

13. Ideal Solvent should possess :

(A) Does not completely and quickly dissolved odoriferous principles of flowers

(B) Should have high B.P

(C) Must dissolve water

(D) Must be chemically innert, have uniform boiling point

14. In extraction with volatile solvents :

(A) Solvent does not penetrate the flowers and dissolves the natural flower perfumes

(B) Solvent penetrate the flowers and dissolves the natural flower perfumes

(C) Solvent penetrate the flowers and does not dissolve the natural flower perfumes

(D) Solvent does not penetrate the flower and dissolves waxes

15. On concentrating extraits (distilling off alcohol) :

(A) Content of oil increases and fat decreases

(B) Content of oil decreases and fat increases

(C) Content of oil and fat increases correspondingly

(D) Content of oil and fat decreases

16. Absolute of emyleurage is :

(A) Dark colour, semisolid consistency

(B) Light colour, liquid consistency

(C) Dark colour, liquid consistency

(D) Light colour, having liquid consistency

17. Terpenes and terpenoids are :

(A) Secondary constituents of Essential oils

(B) Primary constituents of essential oils

(C) Are not present in essential oils

(D) Not reacting easily with air and heat sources

18. In Satellite Steam generation :

(A) Amount of Steam can be easily controlled

(B) Amount of Steam can not be controlled

(C) Plant material is heated higher than 100℃

(D) Amount of Steam can be easily controlled and plant material is heated higher than 100℃

19. Cohobation process :

(A) The returning of water to the still is not done

(B) Does not minimizes the losses of oxygenated components

(C) Minimizes the loss of oxygenated components

(D) Not used for water and water-steam distillation

20. Plant materials rich in mucillage :

(A) Used as it is

(B) Must be powdered so that charge materials comes in proper contact with H_2O

(C) Should not be powdered

(D) Used as it is for proper contact with H_2O

21. For best oil quality :

(A) Distillation process must be done at low temperature

(B) Distillation process must be done at high temperature

(C) Distillation process must be done at low pressure

(D) Distillation process must be done at low pressure and low temperature

22. Distillation speed is faster in :

(A) Low boiling but more water soluble oil constituents

(B) High- boiling but more water soluble oil constituent

(C) Low boiling but less water soluble oil constituent

(D) High boiling but less water soluble oil constituents

23. The extent to which hydrolysis proceed :

(A) Does not depends on the time of contact between oil and water

(B) Depends on the time of contact between oil and water

(C) Does not depends on the contact time of water

(D) Depends on the time of contact of water

24. Membranes of plant cells are :

(A) Permeable to volatile oil

(B) Impermeable to volatile oils

(C) Permeable to only water

(D) Impermeable to oil water mixture

25. In steam distillation process :

(A) Steam does not actually penetrate the dry cell membrance

(B) Steam penetrate the dry cell membrance

(C) Steam does not have any effect

(D) Steam effect the cell membrance and enters in side the cell

26. For extraction of EOs through distillation process :

(A) Sufficient quantity of water is added

(B) Insufficient quantity of water is added

(C) Very small amount of water is added

(D) No water is added

27. Lemons and oranges get their distinctive smell because of :

(A) Linalool

(B) Limonene

(C) Methol

(D) Camphor

28. Gum resin are :

(A) Natural plants & tree extracts

(B) Obtained artificially

(C) Obtained from animals

(D) Obtained from both animals and plants

29. EQs are insoluble in :

(A) Alcohol

(B) Ether

(C) Fixed oil

(D) Water

30. EOs are :

(A) Complex mixture of non-volatile compounds produced by plants

(B) Complex mixture of volatile compounds produced by plants

(C) Complex non-volatile compounds produced by any living organism

(D) Complex volatile compounds produced by any living organism

31. Bitumen paints offer :

(A) Hard surface

(B) Smooth surface

(C) Protective surface

(D) Pleasing surface

32. The liquid part of the paint is called :

(A) Solvent

(B) Drier

(C) Vehicle

(D) Pigment

33. In paints the pigment is responsible for :

(A) Glassy face

(B) Smoothness

(C) Durability

(D) Colour

34. Which of the following has a sheen and is highly washable ?

(A) Acrylic egg shell

(B) Acrylic satin

(C) Acrylic gloss

(D) Acrylic flat

35. The Spray painting is used to :

(A) Reach high areas

(B) Apply large amount of paint

(C) Get textured paint

(D) Apply paint without touching surface

36. Which of the following is used to make paints odourless to an extent ?

(A) Celluloid sheets

(B) Flat late

(C) Acrylic compound

(D) Plioway resins

37. Synthetic rubber paints are synthesized from :

(A) Rubber

(B) Resin

(C) Synthetic fibres

(D) Polyvinge chloride

38. In which of the following below, it is not necessary to remove existing paint to apply a new one ?

(A) Oil paints

(B) Enamel paints

(C) Cement paints

(D) Aluminium paints

39. Anticorrosive paint in colour is :

(A) White

(B) Blue

(C) Black

(D) Yellow

40. Emulsion Paints contain :

(A) Zinc white

(B) White lead

(C) Nitro cotton

(D) Polyvinyl autate

41. In how many layers is oil paint applied to a surface ?

(A) 1

(B) 2

(C) 3

(D) 4

42. Which of the following is the base in a paint ?

(A) White lead

(B) Sulphates of zinc and manganese

(C) Poppy oil

(D) Linseed oil

43. Red lead, white lead, oxides of zinc and oxides of iron are the substances used in the formation of paints of :

(A) Base

(B) Drier

(C) Vehicle

(D) Carrier

44. When paint is applied in three coats, the first coat is called :

(A) Finishing coat

(B) Priming coat

(C) Stopping

(D) Under coat

45. What is Distemper ?

(A) Drying agent

(B) A paint consisting of powdered chalk, pigments and water

(C) A paint consisting of coloured cement

(D) A water proofing agent

46. Formation of bubbles on painted surfaces is called :

(A) Blistering

(B) Flaking

(C) Fading

(D) Bloom

47. The maximum surface drying time (min) for class A type plastic emulsion paint as per Indian Standard is :

(A) 240

(B) 60

(C) 75

(D) 45

48. In paint, lead is used as :

(A) Carrier

(B) Drier

(C) Base

(D) Pigment

49. Which of the following is not a vehicle in paints ?

(A) Linseed oil

(B) Tung oil

(C) Poppy oil

(D) Turpentine oil

50. The paint contains polystyrene as a base is :

(A) Emulsion

(B) Synthetic rubber

(C) Enamel

(D) Aluminium

51. The component filler in paint does the function of :

(A) Absorbing oxygen

(B) Reducing cost

(C) Consistency

(D) Smooth spreading

52. Which of the following is a characteristic of an ideal paint ?

(A) Health of the worker is un affected

(B) Costly

(C) Pleasant smell

(D) Dries rapidly

53. Paint should provide resistance to :

(A) Corrosion

(B) Sound

(C) Heat

(D) Warping

54. In paints, methylated spirit, naphtha and turpentine are used as :

(A) Base

(B) Binder

(C) Solvent

(D) Extender

55. The base material for distemper is :

(A) Chalk

(B) Lime

(C) Clay

(D) Lime putty

56. The commonly used thinner in oil paints is :

(A) Naphtha

(B) Turpentine

(C) Both (A) and (B)

(D) None of above

57. The ingredient of paint. Which are used to hide the surface irregularities and imparts colour is known as :

(A) Adult rants

(B) Drier

(C) Pigments

(D) Solvents

58. Which one of the following is used as a carrier in paint ?

(A) Almond oil

(B) Linseed oil

(C) Mustard oil

(D) Olive oil

59. Which of the following is the most fire resistant paints ?

(A) Enamel paints

(B) Aluminium paints

(C) Asbestos paints

(D) Cement paints

60. What is the full form of PVCN with respect of paint ?

(A) Pigment volume concentration number

(B) Paint volume concentration number

(C) Paint volume carbon number

(D) Pigment volume carbon number

61. The quantity of drier in paints is limited to :

(A) 2%

(B) 4%

(C) 6%

(D) 8%

62. Resins containing benzoic acid or cirramic acids are called :

(A) Oleoresins

(B) Glycoresins

(C) Oleo gum

(D) Balsam

63. Glyco resins are made up of :

(A) Resins + Sugar

(B) Resins + Volatile oil

(C) Resins + Gum

(D) Resins + Fixed oil

64. Which is not an example of acid resins ?

(A) Benzoin

(B) Colophony

(C) Sandrac

(D) Myrrh

65. Resins are classified into following sub classes except :

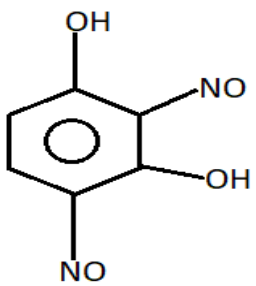
(A) Acid

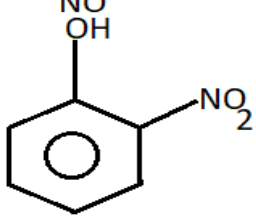
(B) Ester

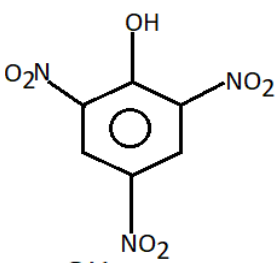
(C) Resin alcohol

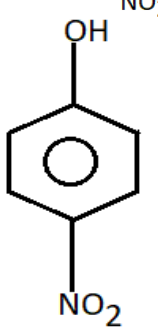
(D) Resin ether

66. The example of nitro so dye is :

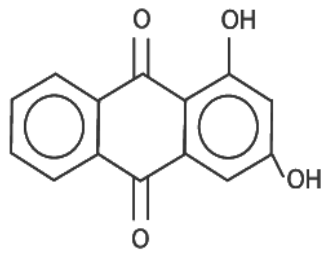
(A) 

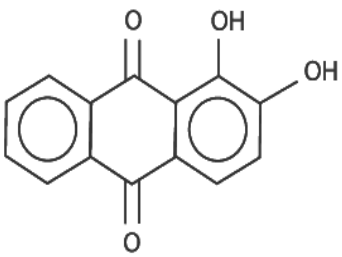
(B) 

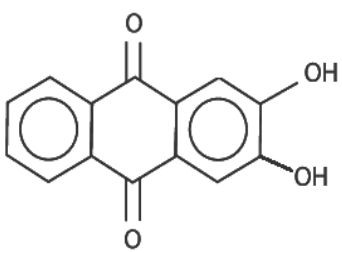
(C) 

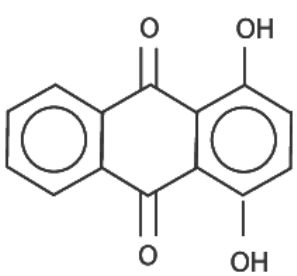
(D) 

67. The chemical structure of Alizarin is :

(A) 

(B) 

(C) 

(D) 

68. Which of the following is an azo dye ?

(A) Orange-1

(B) Phenolphthalein

(C) Malachite green

(D) Methylene blue

69. Indigo shows is trans isomerism. Which is the stable form of Indigo ?

(A) Cis

(B) Trans

(C) Either is or trans

(D) Both of the above

70. Malachite green is a direct dye for silk and wool. It is prepared by condensing :

(A) Benzaldehyde by dimethyl aniline

(B) Carbonyl chloride and dimethyl aniline

(C) Benzene diazonium chloride with dimethyl aniline

(D) None of the above

71. Which one is disperse dye ?

(A) Congored

(B) Alizarin

(C) Celliton

(D) None of the above

72. Disperse dyes contain:

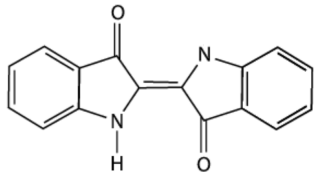
(A) Anthraquinone unit

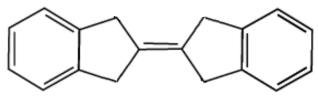
(B) Naphthalene unit

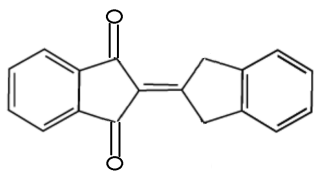
(C) Phenanthrene unit

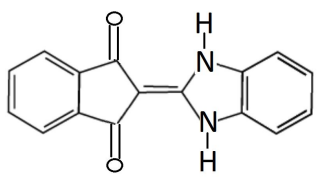
(D) Anthracene unit

73. Structure of indigo dye is :

(A) 

(B) 

(C) 

(D) 

74. Which of the following is a vat dye and after used in dyeing gears ?

(A) Indigo

(B) Alizarin

(C) Picric acid

(D) Crystal Violet

75. Which of the following is an example of basic dye ?

(A) Alizarin

(B) Malachite green

(C) Indigo

(D) Orange I

76. Alizarin belongs to the class of :

(A) Vat dyes

(B) Mordant dyes

(C) Substantive dyes

(D) Reactive dyes

77. Which of the following dyes can not dye animal and vegetable fibres directly ?

(A) Mordant dyes

(B) Acid dyes

(C) Direct dyes

(D) Vat dyes

78. The dyes contain – OH or – COOH radicals attached to azo anthracene complex are called :

(A) Acid dyes

(B) Basic dyes

(C) Direct dyes

(D) Mordant dyes

79. Which of the following functional group is present in methyl red ?

(A) $- NO_2$

(B) - COOH

(C) SH

(D)  M_e

80. The colour of methyl orange in acidic medium is :

(A) Yellow

(B) Red

(C) Blue

(D) Orange

81. Methyl orange contains :

(A) - SO_3 Na, - N=N-and –$N\langle^{Me}_{Me}$ groups

(B) - SO_3 Na, - N=N - and – NH_2 groups

(C) SO_3 Na, - N=N - and – OH groups

(D) - SO_3 Na, - N=N - and – SH groups

82. Martius yellow is synthesized by the reaction of $\propto$ - naphthol with :

(A) H_2SO_4 only

(B) HNO_3 only

(C) H_2SO_4 and HNO_3

(D) None of the above

83. The IUPAC name of Naphthol yellow-s is :

(A) 2,3 - dinitro-1- naphthol-7-Sulphonic acid

(B) 2,4 - dinitro-1- naphthol-7-Sulphonic acid

(C) 2,5 - dinitro-1- naphthol-7-Sulphonic acid

(D) 2,6 - dinitro-1- naphthol-7-Sulphonic acid

84. Picric acid contains :

(A) Three-NO_2 and one – OH groups

(B) Two-NO_2 and two – OH groups

(C) One-NO_2 and three – OH groups

(D) All-NO_2 groups

85. In the formation of azo dyes, the reaction of aromatic primary amine with $NaNO_2$ at 0-5℃gives :

(A) R-NH_2

(B) R-COOH

(C) R-N=N-Cl

(D) All of the above

86. In the formation of nitro dyes, the intermediate formed by the reaction of H_2SO_4 and HNO_3 is :

(A) $No_2\oplus$

(B) So_3

(C) CH_2!

(D) All of the above

87. Naphthol green Y contains :

(A) – OH and – NO_2 groups

(B) – OH and – NO groups

(C) – OH and – N=N- groups

(D) – OH and – SO_3H groups

88. Which of the following dyes are classified on the basis of chemical constitution ?

(A) Acid dyes

(B) Basic dyes

(C) Mordant dyes

(D) Nitro dyes

89. Which of the following dyes are classified on the basis of mode of application ?

(A) Azo dyes

(B) Nitro dyes

(C) Acid dyes

(D) None of the above

90. Application of the dye depends upon the factors :

(A) Nature of dye

(B) Absorptive power of fibre

(C) Conditions of the dyeing

(D) All of the above

91. The basic operation of the dyeing process in values :

(A) Preparation of the dye bath

(B) Preparation of the fibre

(C) Application of the dye

(D) All of the above

92. Congo red is :

(A) Vat dye

(B) Mordant dye

(C) Substantive dye

(D) Disperse dye

93. Vat dyeing is good method for :

(A) Cotton

(B) Silk

(C) Wool

(D) None of the above

94. Direct dyeing depends upon the factor :

(A) Absorptive power of the fibre

(B) Nature of the fibre

(C) Dyeing conditions

(D) All of the above

95. The acidic dye is :

(A) Martius yellow

(B) Medolas blue

(C) Methylene blue

(D) None of the above

96. The method of dyeing depends upon the factor :

(A) Type of the dye

(B) Nature of the dye

(C) Types of the fibre

(D) All of the above

97. By the introduction of $-NH_2$ group to the nitro compound causes :

(A) Bathochromic Shift

(B) Hypsochromic Shift

(C) Hypochromic Shift

(D) Hyper chromic Shift

98. Due to bathochromic shift, the λ max of the compound :

(A) Decreases

(B) Increases

(C) Remain unchange

(D) All of the above

99. Which of the following is chromophore ?

(A) - OH

(B) $-NH_2$

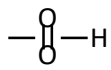
(C) $-NO_2$

(D) $-S_4$

100. Which of the following is auxochrome ?

(A) $-NH_2$

(B) $-NO_2$

(C) 

(D) None of the above

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