



Q-1 Aditya-L1 is dedicated mission of ISRO to study -----.

- A Moon B Mars  
C Jupiter D Sun

Correct Answer : D

Q-2 The Indus water treaty which has recently been suspended was between India and -----.

- A China B Pakistan  
C Bangladesh D Nepal

Correct Answer : B

Q-3 Cellular jail is located in -----.

- A Goa B Shaheed dweep  
C Pune D Sri Vijaya Puram

Correct Answer : D

Q-4 The ratio of Sun's distance from earth to the diameter of Sun is approximately -----.

- A 100 B 104  
C 108 D 112

Correct Answer : C

Q-5 As per the latest data released by the IMF World Economic Outlook, position of India among World largest economies is expected to be at ----- in May/June 2025.

- A 4th B 5th  
C 6th D 3rd

Correct Answer : A

Q-6 What is the missing number in sequence 4,8,14,22,32,-----?

- A 42 B 44  
C 46 D 48

Correct Answer : B

Q-7 Choose the correct passive form of the sentence given below:  
Had the police arrested the burglar.

- A Had the burglar been arrested by the police. B Have the burglar been arrested by the police.  
C The burglar has been arrested by the police. D Had the burglar was arrested by the police.

Correct Answer : A

I can't find my \_\_\_\_\_ bag.

Q-8 lose

**C lost**

B loosing

D left

**Correct Answer : C**

Q-9 Identify the word which is similar in the meaning to the phrase (in inverted commas) of the sentence:  
When she heard the news, she was "like a dog with two tails".

A very greedy

B very enthusiastic

C very morose

**D very happy**

**Correct Answer : D**

Q-10 Let's wait until it \_\_\_\_\_ raining.

**A stops**

B stopped

C stopping

D stop

**Correct Answer : A**

Q-11 Which element has the largest atomic radius?

A Li

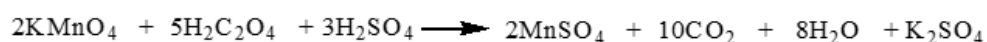
B Na

C F

**D I**

**Correct Answer : D**

Q-12 In the following reaction, what happens to Mn ? It undergoes



**A reduction**

B oxidation

C Loss of electron

D no change

**Correct Answer : A**

Q-13 The correct order of orbitals in which electrons are filled is?

A 3d, 4s, 4p, 4d

**B 4s, 3d, 4p, 5s**

C 5s, 4p, 3d, 4d

D 3d, 4p, 4s, 4d

**Correct Answer : B**

Q-14 Which of the following is incorrect about 's' orbitals?

A They are spherical in shape

B They are found in all principal energy levels

**C They can only hold one electron**

D None of these

**Correct Answer : C**

Q-15 Which pair of metals has the same electronic configuration

A  $\text{Cr}^{3+}$ ,  $\text{Fe}^{3+}$

**B  $\text{Mn}^{2+}$ ,  $\text{Fe}^{3+}$**

C  $\text{V}^{3+}$ ,  $\text{Cr}^{3+}$

D  $\text{Mn}^{2+}$ ,  $\text{Ni}^{2+}$

**Correct Answer : B**

Q-16 The hybridisation of S in  $\text{SF}_6$  molecule is

A  $sp^3d^2$

C  $d^2sp^3$

B  $dsp^3$

D  $sp^3$

Correct Answer : A

Q-17 Among the following compounds which one is most ionic?

A BeS

C **MgCl<sub>2</sub>**

B BCl<sub>3</sub>

D Al<sub>2</sub>O<sub>3</sub>

Correct Answer : C

Q-18 Which element has the highest first ionization energy?

A O

C C

B **N**

D B

Correct Answer : B

Q-19 The chemical formula of ammonium phosphate is

A (NH<sub>4</sub>)PO<sub>4</sub>

C **(NH<sub>4</sub>)<sub>3</sub>PO<sub>4</sub>**

B (NH<sub>4</sub>)<sub>2</sub>PO<sub>4</sub>

D None of these

Correct Answer : C

Q-20 Arrange the following in increasing order of their bond order He<sub>2</sub>, O<sub>2</sub>, N<sub>2</sub> and NO

A He<sub>2</sub><O<sub>2</sub> <N<sub>2</sub>< NO

C He<sub>2</sub><N<sub>2</sub>< NO <O<sub>2</sub>

B He<sub>2</sub>>O<sub>2</sub>>N<sub>2</sub> >NO

D **He<sub>2</sub><O<sub>2</sub><NO <N<sub>2</sub>**

Correct Answer : D

Q-21 Which of the following is scalar physical quantity?

A Velocity

C **Speed**

B Acceleration

D Momentum

Correct Answer : C

Q-22 Newton's first law of motion is also known as:

A **Law of inertia**

C Law of action-reaction

B Law of acceleration

D Law of gravitation

Correct Answer : A

Q-23 If m is mass of the displaced object, x is displacement and k is spring constant, then the restoring force (F) in SHM (Simple harmonic motion) is given by:

A  $F = kx$

C  $F = ma$

B  **$F = -kx$**

D  $F = mv$

Correct Answer : B

Q-24 The distance between two consecutive crests or troughs in a transverse wave is called

A Amplitude

C Time period

B Frequency

D **Wavelength**



C  $\frac{3\pi}{2}, \frac{5\pi}{2}$

D  $\frac{3\pi}{4}, \frac{7\pi}{4}$

Correct Answer : B

Q-33 Evaluate the integral  $\int \log(x) dx$

A  $\frac{1}{x} + C$

B  $x(\log x - 1) + C$

C  $\log x + 1 + C$

D  $\log x + \frac{1}{x} + C$

Correct Answer : B

Q-34 The order and the degree of the differential equation  $\frac{d^4y}{dx^4} - x^2 \left(\frac{d^2y}{dx^2}\right)^{\frac{1}{2}} = 0$  are

A 2,4

B 4,1

C 4,2

D 2,2

Correct Answer : C

Q-35 The solution of the differential equation  $\frac{dy}{dx} + \frac{y}{x} = x^2$  is

A  $y = \frac{x^4}{2} + \frac{C}{x}$

B  $y = \frac{x^2}{2} + C$

C  $y = \frac{x^4}{4} + \frac{C}{x}$

D  $y = \frac{x^3}{4} + \frac{C}{x}$

Correct Answer : D

Q-36 If the mean of certain set of data is 25 and variance is 16, then the coefficient of variance is

A 15

B 16

C 17

D 18

Correct Answer : B

Q-37 For the matrix  $M = \begin{bmatrix} 3 & 2 \\ 1 & 1 \end{bmatrix}$ , find the value of  $a$  and  $b$  such that  $M^2 + aM + bI = 0$ .

A  $a=4, b=1$

B  $a=1, b=4$

C  $a=-4, b=1$

D  $a=4, b=-4$

Correct Answer : C

Q-38 If the matrix  $\begin{bmatrix} 1+x & 3 & 0 \\ 1 & -1 & 2 \\ 2x & 1 & -5 \end{bmatrix}$  is singular, the value of  $x$  is

- A 6/5  
 B 5/6  
 C (-5)/6  
 D **(-6)/5**

Correct Answer : D

Q-39 Find the equation of the line in cartesian form that passes through the point with position vector  $2\hat{i} - \hat{j} + 4\hat{k}$  and is in the direction  $\hat{i} + 2\hat{j} - \hat{k}$ .

- A  $\frac{x-1}{2} = \frac{y-2}{-1} = \frac{z+1}{4}$   
 B  $\frac{x-2}{1} = \frac{y+1}{2} = \frac{z-4}{-1}$   
 C  $\frac{x-1}{1} = \frac{y+1}{2} = \frac{z-4}{-1}$   
 D  $\frac{x-1}{1} = \frac{y-2}{2} = \frac{z+1}{1}$

Correct Answer : B

Q-40 If a line has direction ratios 2,-1,-2, determine its direction cosines

- A  $\frac{2}{9}, \frac{-1}{9}, \frac{-2}{9}$   
 B  $\frac{-2}{9}, \frac{1}{9}, \frac{2}{9}$   
 C  $\frac{2}{5}, \frac{-1}{5}, \frac{-2}{5}$   
 D  $\frac{2}{3}, \frac{-1}{3}, \frac{-2}{3}$

Correct Answer : D

Q-41 Which of the following is not an intensive property of a thermodynamic system?

- A **Mass**  
 B Pressure  
 C Temperature  
 D None of these

Correct Answer : A

Q-42 Concept of entropy, a measure of disorder or randomness in a system is being introduced by

- A Zeroth Law of thermodynamics  
 B First Law of thermodynamics  
 C **Second Law of thermodynamics**  
 D Third Law of thermodynamics

Correct Answer : C

Q-43 The third law of thermodynamics states that entropy of a perfectly ordered crystalline substance is \_\_\_\_\_ at absolute zero of temperature.

- A **Zero**  
 B Less than Zero  
 C Greater than Zero  
 D One

Correct Answer : A

Q-44 Roul't's law states that

A  $C_p$  (heat capacity at constant pressure) –  $C_v$  (heat capacity at constant volume) =  $R$  (Gas constant).

**C Partial vapor pressure of a solvent in a solution is directly proportional to its mole fraction in the solution.**

B  $C_p$  (heat capacity at constant pressure) +  $C_v$  (heat capacity at constant volume) =  $R$  (Gas constant).

D Partial vapor pressure of a solvent in a solution is inversely proportional to its mole fraction in the solution.

**Correct Answer : C**

Q-45 For a reversible reaction at equilibrium, the free energy change is

A small negative

**B zero**

C small positive

D none of these

**Correct Answer : B**

Q-46 Rate constant,  $k$  of a first order homogeneous exothermic liquid phase reaction,  $A \xrightarrow{k} B$  depends on

A time

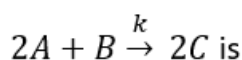
**B temperature**

C concentration

D none of these

**Correct Answer : B**

Q-47 The molecularity of an elementary liquid phase reaction,



A 1

B 2

**C 3**

D 5

**Correct Answer : C**

Q-48 If the reactants are entering into a CSTR having inside reactant volume of 20 Litre at a flow rate of 5 litre/minute, the residence time (in minute) for the reactants in a CSTR will be

A 0.25

**B 4**

C 25

D 100

**Correct Answer : B**

Q-49 The reaction in which the rate of reaction does not depend on concentration of reactants is known as

**A zero order reaction**

B first order reaction

C second order reaction

D third order reaction

**Correct Answer : A**

Q-50 Which of the following is the cause of global warming?

**A Excessive burning of fossil fuels**

B Afforestation

C Accumulation of plastic waste

D Decrease in carbon dioxide concentration in atmosphere

**Correct Answer : A**

Q-51 In which of the following mode of heat transfer, the heat is transmitted without medium?

A Convection

**C Radiation**

B Conduction

D Insulation

**Correct Answer : C**

Q-52 The fundamental Law which describes the heat flow through a material by conduction is \_\_\_\_\_.

**A Fourier's Law**

B Stefan-Boltzmann Law

C Plank's law

D Newton's Law

**Correct Answer : A**

Q-53 Which of the following is not a heat transfer equipment?

A Heat exchanger

B Evaporator

C Condenser

**D none of these**

**Correct Answer : D**

Q-54 Fick's first law of diffusion describes \_\_\_\_\_

**A movement of solute from higher concentration to lower concentration.**

B movement of solute from lower concentration to higher concentration.

C movement of heat from higher temperature to lower temperature.

D movement of heat from lower temperature to higher temperature.

**Correct Answer : A**

Q-55 Which of the following is not true?

**A The process wherein molecular substances are accumulated in higher concentrations on the surface is called absorption.**

B Plate and packed columns are used for the separation processes.

C Sieve tray distillation column is used for the separation of ethanol-water system in the alcohol industry.

D The soluble component in absorption equipment is called solute.

**Correct Answer : A**

Q-56 Bernoulli's theorem states that the sum of pressure energy, kinetic energy, and potential energy at any point of the fluids is.....

A very high

B moderate high

**C constant**

D low

**Correct Answer : C**

Q-57 Which of the following is true for constant pressure filtration?

A Resistance decreases with time.

B Rate of filtration increases with time.

**C Rate of filtration decreases with time.**

D Rate of filtration is constant.

**Correct Answer : C**

Q-58 As per the Rittingers law, the work required is proportional to \_\_\_\_\_

A consumed energy.

B the initial feed.

**C surface area created.**

D final volume obtained.



Q-67 Which one of the following is utilized for the measurement of liquid level?

- A Pirani gauge  
 B Polarimeter  
 C MacLeod gauge  
 D **Air purge system**

Correct Answer : D

Q-68 Which of the following comprises the municipal solid waste?

- A Food waste  
 B Plastic cans  
 C Wood waste  
 D **All of these**

Correct Answer : D

Q-69 Which of the following statement is correct?

- A Noise pollution contributes to the global warming.  
 B Smog is not a type of air pollution.  
 C **Agricultural pesticides cause water pollution.**  
 D Unrestricted grazing helps in equitable use of resources

Correct Answer : C

Q-70 Thermodynamic system of a steam turbine is an example of \_\_\_\_\_.

- A Close system  
 B **Open system**  
 C Both close and open system  
 D None of these

Correct Answer : B

Q-71 Which of the following is a monosaccharide?

- A Sucrose  
 B Lactose  
 C **Fructose**  
 D Maltose

Correct Answer : C

Q-72 Which of the following is an example of a fibrous protein?

- A Hemoglobin  
 B **Keratin**  
 C Insulin  
 D Myoglobin

Correct Answer : B

Q-73 Unsaturated fats are primarily found in

- A Animal fats  
 B Dairy products  
 C Processed foods  
 D **Nuts and oil seeds**

Correct Answer : D

Q-74 Denaturation of proteins results in

- A Complete breakdown into amino acids  
 B **Loss of biological activity and change in structure**  
 C Increased solubility in water  
 D Formation of a stronger peptide bond

Q-75 Rancidity of fats occurs due to

- A Freezing  
 B **Exposure to light, air, and moisture**  
 C Mixing with proteins  
 D Heating at high temperatures

Correct Answer : B

Q-76 The process of converting unsaturated fats into saturated fats by adding hydrogen is called

- A Hydrolysis  
 B **Hydrogenation**  
 C Saponification  
 D Oxidation

Correct Answer : B

Q-77 Which chemical test is used to detect the presence of reducing sugars?

- A **Benedict's test**  
 B Biuret test  
 C Iodine test  
 D Fehling's test

Correct Answer : A

Q-78 Which of the following bacteria is rod-shaped?

- A **Bacilli**  
 B Cocci  
 C Vibrio  
 D Spirillum

Correct Answer : A

Q-79 Canned meat is generally spoiled by

- A **Clostridium**  
 B Escherichia  
 C Pseudomonas  
 D Salmonella

Correct Answer : A

Q-80 Which type of spoilage is expected in the canned evaporated milk?

- A Curd formation  
 B Bulged can  
 C Bitter flavour  
 D **All of these**

Correct Answer : D

Q-81 What is the primary purpose of cereals milling?

- A To increase their moisture content  
 B To improve their color  
 C **To remove husk and bran, improving digestibility**  
 D To reduce their nutritional value

Correct Answer : C

Q-82 The degree of milling in cereals affects

- A Nutritional value  
 B Shelf life  
 C Cooking quality  
 D **All of these**

Correct Answer : D

Q-83 Which of the following is a traditional method of oil extraction?

- A Expeller pressing  
B **Cold pressing**  
C Solvent extraction  
D Supercritical fluid extraction

Correct Answer : B

Q-84 Which of the following factors affects oil yield during extraction?

- A Type of oilseed  
B Moisture content  
C Extraction method used  
D **All of these**

Correct Answer : D

Q-85 What is the primary objective of milk homogenization?

- A To increase milk's viscosity  
B **To break down fat globules and prevent cream separation**  
C To kill harmful bacteria  
D To remove lactose from milk

Correct Answer : B

Q-86 What equipment is commonly used for pasteurizing milk?

- A **Heat exchanger**  
B Homogenizer  
C Centrifuge  
D Ultrafiltration unit

Correct Answer : A

Q-87 Which chemical is commonly used for curing meat?

- A Sodium chloride  
B **Sodium nitrate**  
C Potassium hydroxide  
D Calcium carbonate

Correct Answer : B

Q-88 What does HACCP stand for in meat and poultry processing?

- A **Hazard Analysis and Critical Control Points**  
B High Accuracy Chemical Control Process  
C Healthy Animal Care and Processing Plan  
D Heat Application and Cold Cooking Process

Correct Answer : A

Q-89 Which microorganism is primarily responsible for alcoholic fermentation?

- A Lactobacillus  
B **Saccharomyces cerevisiae**  
C Escherichia coli  
D Streptococcus thermophilus

Correct Answer : B

Q-90 In distilled alcoholic beverages, what process is used to concentrate alcohol content?

- A Filtration  
B Pasteurization  
C **Distillation**  
D Carbonation

Correct Answer : C

Q-91 What gas is commonly used to carbonate soft drinks?

- A Oxygen  
B Nitrogen  
C **Carbon dioxide**  
D Helium

**Correct Answer : C**

Q-92 What is the primary purpose of blanching in fruit and vegetable processing?

- A To add flavor  
B To soften the texture  
C **To inactivate enzymes**  
D To increase the sugar content

**Correct Answer : C**

Q-93 Which quality attribute determines the crispiness of potato chips?

- A Chemical properties  
B **Texture**  
C Aroma  
D Nutritional content

**Correct Answer : B**

Q-94 What is used to measure the sweetness of a food product?

- A pH meter  
B **Refractometer**  
C Texture analyzer  
D Thermometer

**Correct Answer : B**

Q-95 Which simple test can be used to detect the presence of starch in milk?

- A **Adding iodine solution**  
B Adding vinegar  
C Boiling the milk  
D Freezing the milk

**Correct Answer : A**

Q-96 Which food safety authority is responsible for controlling food adulteration in India?

- A WHO  
B **FSSAI**  
C FDA  
D ISO

**Correct Answer : B**

Q-97 What does the term "rheology" refer to in food science?

- A Study of food color changes  
B Study of heat transfer in food processing  
C **Study of the flow and deformation of food materials**  
D Study of microbial growth in food

**Correct Answer : C**

Q-98 Which of the following is a subjective method of sensory evaluation?

- A pH measurement  
B Texture analysis  
C **Consumer panel testing**  
D Gas chromatography

**Correct Answer : C**

Q-99 What is "threshold testing" in sensory evaluation?

- A **Testing for the minimum concentration at which a stimulus is detected**  
B Measuring the nutritional content of food

C Determining the exact chemical composition of food

D Analyzing the color of food

**Correct Answer : A**

Q-100 What does the FSSAI logo on packaged food indicate?

A The product is organic

**B The product meets food safety and quality standards**

C The product is imported

D The product is expensive

**Correct Answer : B**



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