38 Dairy Engineering ICAR SEPT 2022

Topic:- GEN KNOW COMMON PHD

1) Colour of the tag used on certified seed bags is[Question ID = 16958][Question Description = 101_221_GKD_SEP22_Q01]

1. Blue [Option ID = 37829]
2. Purple [Option ID = 37830]
3. White [Option ID = 37831]
4. Golden Yellow [Option ID = 37832]

2) Following are the statements regarding the Usar soil -

A. It is reclaimed by adding lime.

B. This soil has pH more than seven.

C. Paddy crop can be grown in this soil.

Choose the *correct* answer from the options given below:

[Question ID = 16959][Question Description = 102_221_GKD_SEP22_Q02]

1. A and B only [Option ID = 37833]
2. B and C only [Option ID = 37834]
3. C only [Option ID = 37835]
4. A only [Option ID = 37836]

3) When total utility of a commodity increases, marginal utility will be

[Question ID = 16960][Question Description = 103_221_GKD_SEP22_Q03]

1. Negative but increasing

   [Option ID = 37837]
2. Positive but decreasing

   [Option ID = 37838]
3. Constant

   [Option ID = 37839]
4. Either positive or negative

   [Option ID = 37840]

4) Where is the headquarter of International Fund for Agriculture Development located?

[Question ID = 16961][Question Description = 104_221_GKD_SEP22_Q04]

1. Vienna, Austria

   [Option ID = 37841]
2. Rome, Italy

   [Option ID = 37842]
3. New York, USA

   [Option ID = 37843]
4. Berlin, Germany

   [Option ID = 37844]

5) Mid-Oceanic Ridges are one of the important divisions of the ocean floor. In this respect, point out the incorrect statement regarding the 'Mid-Oceanic Ridges'.[Question ID = 16962][Question Description = 105_221_GKD_SEP22_Q05]

1. It is the largest mountain chain on the surface of the earth [Option ID = 37845]
2. It is a series of interconnected chain within the ocean. [Option ID = 37846]
3. It is characterised by a central rift system [Option ID = 37847]
4. The rift system at the crest is the zone of very low volcanic activity. [Option ID = 37848]

6) Consider the following facts about the union territory of India and point out the one which is incorrect in relation to union territory.[Question ID = 16963][Question Description = 106_221_GKD_SEP22_Q06]

1. These are the areas under the direct control of central government. [Option ID = 37849]
2. Also known as the 'centrally administered territories. [Option ID = 37850]

3. These territories constitute a conspicuous departure from the unitary feature of India. [Option ID = 37851]
4. There is no uniformity in their administrative systems. [Option ID = 37852]

7) Variety of flora and fauna are found in the different types of forest in India. In this regard, species of trees like teak, *sal shisham*, *sandalwood*, etc. are found in which of the following type of forests in India?[Question ID = 16964][Question Description = 107_221_GKD_SEP22_Q07]

1. Tropical evergreen forests [Option ID = 37853]
2. Tropical thorn forests [Option ID = 37854]
3. Tropical deciduous forests [Option ID = 37855]
4. Montane forests [Option ID = 37856]

8) The Marginal Preference Theory of consumption behaviour was proposed by

[Question ID = 16965][Question Description = 108_221_GKD_SEP22_Q08]

1. Armstrong

   [Option ID = 37857]
2. J.K.Hicks

   [Option ID = 37858]
3. Neumann

   [Option ID = 37859]
4. Edmund Cannon

   [Option ID = 37860]

9) Point out the incorrect statements regarding the service sector in India.[Question ID = 16966][Question Description = 109_221_GKD_SEP22_Q09]

1. It is the highest contributor to GDP [Option ID = 37861]
2. It requires skilled labour [Option ID = 37862]
3. It is the fastest growing sector [Option ID = 37863]
4. It is restricted to very few sectors. [Option ID = 37864]

10) Consider the statements regarding the agriculture sector in India and point out the incorrect statement.[Question ID = 16967][Question Description = 110_221_GKD_SEP22_Q10]

1. Agriculture sector is the largest employer of workforce [Option ID = 37865]
2. It has contributed to the Gross Value Added (GVA) [Option ID = 37866]
3. Growth in allied sectors is the major drivers of overall growth in the sector. [Option ID = 37867]
4. Minimum Support Price (MSP) policy is used as to promote crop uniformity. [Option ID = 37868]

11) In case of related goods, the cross elasticity of demand is[Question ID = 16968][Question Description = 111_221_GKD_SEP22_Q11]

1. Low [Option ID = 37869]
2. High [Option ID = 37870]
3. Zero [Option ID = 37871]
4. Unity [Option ID = 37872]

12) With reference to organic farming in India, consider the following statements :

A. The National Programme for Organic Production' (NPOP) is operated under the guidelines and directions of the Union Ministry of Rural Development.

B. The Agricultural and Processed Food Products Export Development Authority' (APEDA) functions as the Secreatariat for the implementation of NPOP.

C. Sikkim has become India's first fully organic state.

Choose the *correct* answer from the options given below:

[Question ID = 16969][Question Description = 112_221_GKD_SEP22_Q12]

1. A and B only

   [Option ID = 37873]
2. B and C only

   [Option ID = 37874]
3. C only

   [Option ID = 37875]
4. A, B and C

[Option ID = 37876]

13) With reference to the circumstances in Indian agriculture, the concept of "Conservation Agriculture" assumes significance. Which of the following falls under the Conservation Agriculture ?

A. Avoiding the monoculture practices.

B. Adopting minimum tillage.

C. Avoiding the cultivation of plantation crops.

D. Using crop residues to cover soil surface.

E. Adopting spatial and temporal crop sequencing/ crop rotations.

Choose the *correct* answer from the options given below:

[Question ID = 16970][Question Description = 113_221_GKD_SEP22_Q13]

1. A, C and D only [Option ID = 37877]
2. B, C, D and E only [Option ID = 37878]
3. B, D and E only [Option ID = 37879]
4. A, B, C and E only [Option ID = 37880]

14) Consumers are likely to get a variety of goods in which kind of market competition[Question ID = 16971][Question Description = 114_221_GKD_SEP22_Q14]

1. Monopoly [Option ID = 37881]
2. Duopoly [Option ID = 37882]
3. Oligopoly [Option ID = 37883]
4. Monopolistic [Option ID = 37884]

15) What is the correct chronological order of the following laws enacted for the conservation and protection of environment ?

A. Environment (Protection) Act.

B. Water (Prevention & Control of Pollution) Act.

C. Air (Prevention & Control of pollution) Act.

D. National Green Tribunal Act.

Choose the *correct* answer from the options given below:

[Question ID = 16972][Question Description = 115_221_GKD_SEP22_Q15]

1. B, C, A, D [Option ID = 37885]
2. A, B, C, D [Option ID = 37886]
3. C, B, A, D [Option ID = 37887]
4. D, C, B, A [Option ID = 37888]

16) The scientific study of soil is[Question ID = 16973][Question Description = 116_221_GKD_SEP22_Q16]

1. Earth Study [Option ID = 37889]
2. Soil Science [Option ID = 37890]
3. Pedology [Option ID = 37891]
4. Soil Chemistry [Option ID = 37892]

17) *Triticum aestivum*, the common bread wheat is -

[Question ID = 16974][Question Description = 117_221_GKD_SEP22_Q17]

1. Tetraploid

   [Option ID = 37893]
2. Hexaploid

   [Option ID = 37894]
3. Haploid

   [Option ID = 37895]
4. Diploid

   [Option ID = 37896]

18) Sectoral inflation refers to[Question ID = 16975][Question Description = 118_221_GKD_SEP22_Q18]

1. Running inflation [Option ID = 37897]

2. Comprehensive inflation [Option ID = 37898]
3. Sporadic inflation [Option ID = 37899]
4. Creeping inflation [Option ID = 37900]

19) Keynes Liquidity trap refers to[Question ID = 16976][Question Description = 119_221_GKD_SEP22_Q19]

1. Speculative demand for money [Option ID = 37901]
2. Transactions motive of money is inelastic [Option ID = 37902]
3. Precautionary motive f money is inelastic [Option ID = 37903]
4. Transactions motive of money is constant [Option ID = 37904]

20) A business is solvent if[Question ID = 16977][Question Description = 120_221_GKD_SEP22_Q20]

1. Total receipts exceed total expenditures [Option ID = 37905]
2. Total debt exceeds total equity [Option ID = 37906]
3. Total sales exceed total cash expense [Option ID = 37907]
4. Total assets exceed total liabilities [Option ID = 37908]

Topic:- Dairy Sci n Dairy Tech Food Tech_PHD

1) Match List I with List II

List I	List II
(Name of the cheese)	(Category of the cheese)
A. Cheddar	I. Acid coagulated cheese
B. Mozzarella	II. Whey cheese
C. Quarg	III. Hard cheese
D. Ricotta	IV. Pasta filata

Choose the correct answer from the options given below:

[Question ID = 4451][Question Description = 101_50_DAI_SEP22_Q01]

1. A - III, B - IV , C - II , D - I [Option ID = 17801]
2. A - III , B - IV, C - I , D - II [Option ID = 17802]
3. A - II , B - III , C - I, D - IV [Option ID = 17803]
4. A - I , B - II , C - III , D - IV [Option ID = 17804]

2) Arrange the following membrane processes in the order of increasing pore size of the membranes used in these processes.

A. MF

B. NF

C. RO

D. UF

Choose the *correct* answer from the options given below

[Question ID = 4452][Question Description = 102_50_DAI_SEP22_Q02]

1. A, B, C, D [Option ID = 17805]
2. D, C, B, A [Option ID = 17806]
3. A, D, B, C [Option ID = 17807]
4. A, D, C, B [Option ID = 17808]

3) Human milk contains more _____ as compared to bovine milk.[Question ID = 4453][Question Description = 103_50_DAI_SEP22_Q03]

1. whey proteins [Option ID = 17809]
2. ß-Casein [Option ID = 17810]
3. α_{s1}-Casein [Option ID = 17811]
4. κ-Casein [Option ID = 17812]

4) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

Assertion A: Fat destabilization during ice cream freezing facilitates air cells stability

Reason R: Absorption of emulsifers on the surface of fat globule membrane

In light of the above statements, choose the *most appropriate* answer from the options given below:

[Question ID = 4454][Question Description = 104_50_DAI_SEP22_Q04]

1. Both **A** and **R** are correct and **R** is the correct explanation of **A** [Option ID = 17813]

2. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A** [Option ID = 17814]
3. **A** is correct but **R** is not correct [Option ID = 17815]
4. **A** is not correct but **R** is correct [Option ID = 17816]

5) Maximum temperature to which milk particles are exposed during spray drying in the drying chamber is _____ degree celsius.

[Question ID = 4455][Question Description = 105_50_DAI_SEP22_Q05]

1. 40

   [Option ID = 17817]
2. 50

   [Option ID = 17818]
3. 60

   [Option ID = 17819]
4. 70

   [Option ID = 17820]

6) Use of fluidized bed drier for milk powders increases _____[Question ID = 4456][Question Description = 106_50_DAI_SEP22_Q06]

1. Bulk density [Option ID = 17821]
2. Tapped density [Option ID = 17822]
3. Dispersibility [Option ID = 17823]
4. Scorched particle [Option ID = 17824]

7) _____ test is conducted to determine the Linear viscoelastic region of materials[Question ID = 4457] [Question Description = 107_50_DAI_SEP22_Q07]

1. Amplitude sweep [Option ID = 17825]
2. Frequency sweep [Option ID = 17826]
3. Dynamic sweep [Option ID = 17827]
4. Static sweep [Option ID = 17828]

8) Which of the following drying aids acts as wetting agents to promote water removal from foods?[Question ID = 4458] [Question Description = 108_50_DAI_SEP22_Q08]

1. Locust bean gum [Option ID = 17829]
2. Ethyl oleate [Option ID = 17830]
3. Xanthan gum [Option ID = 17831]
4. Methyl sulfonate [Option ID = 17832]

9) Which of the following tests is used to determine the mucosal adherence ability of probiotic organisms?[Question ID = 4459][Question Description = 109_50_DAI_SEP22_Q09]

1. Acid tolerance test [Option ID = 17833]
2. Bile tolerance test [Option ID = 17834]
3. Cell surface hydrophobicity [Option ID = 17835]
4. Bile salt hydrolase activity [Option ID = 17836]

10) Sorption isotherms of most food products are in _____ shape[Question ID = 4460][Question Description = 110_50_DAI_SEP22_Q10]

1. Sigmoid [Option ID = 17837]
2. Parabolic [Option ID = 17838]
3. Elliptical [Option ID = 17839]
4. Decagonal [Option ID = 17840]

11) Which of the following is correct with regard to cocoa flavor?

A. Caffeine and theobromine impart bitterness.

B. Polyphenolic compounds impart astringency.

C. Cocoa flavor precursors are involved in Maillard's reaction during the roasting of the cocoa beans.

D. Solid fat index of cocoa butter also contributes to cocoa flavor.

Choose the *correct* answer from the options given below:

[Question ID = 4461][Question Description = 111_50_DAI_SEP22_Q11]

1. A, B and D only [Option ID = 17841]

2. B and C only [Option ID = 17842]
3. A and D only [Option ID = 17843]
4. A, B and C only [Option ID = 17844]

12) Which of the following is the bitter compound present in bitter oranges?

[Question ID = 4462][Question Description = 112_50_DAI_SEP22_Q12]

1. Hesperidin (Hesperitin-7-rutinoside) [Option ID = 17845]
2. Neoeriocitrin (Eriodictyol-7-O-neohesperidoside) [Option ID = 17846]
3. Naringin (Naringenin-7-neohesperidoside) [Option ID = 17847]
4. Neohesperidin (Hesperetin-7-neohesperidoside) [Option ID = 17848]

13) To prevent the oxidation of beer, bottled beer should not contain more than _____ mg of oxygen per liter.

[Question ID = 4463][Question Description = 113_50_DAI_SEP22_Q13]

1. 0.5 [Option ID = 17849]
2. 1.0 [Option ID = 17850]
3. 5.0 [Option ID = 17851]
4. 0.1 [Option ID = 17852]

14) Match List I with List II

List I	List II
Property	Plastic packaging material
A. Excellent shrink property	I. EVOH
B. Excellent stretch property	II. PS
C. Excellent blister property	III. LDPE
D. Excellent oxygen barrier property	IV. PVC
	V. OPP

Choose the correct answer from the options given below:

[Question ID = 4464][Question Description = 114_50_DAI_SEP22_Q14]

1. A -II , B -V , C -I , D -III [Option ID = 17853]
2. A -V , B -III , C -IV , D -I [Option ID = 17854]
3. A -IV , B -I , C -V , D -II [Option ID = 17855]
4. A -III , B -IV , C -II , D -V [Option ID = 17856]

15) Which of the following treatments effectively prevents the sprouting of onions during long-term storage?

[Question ID = 4465][Question Description = 115_50_DAI_SEP22_Q15]

1. Curing [Option ID = 17857]
2. Waxing [Option ID = 17858]
3. Spraying maleic hydrazide [Option ID = 17859]
4. Dipping in the water containing calcium carbide [Option ID = 17860]

16) Given below are two statements:

Statement I: For parboiling of the rice, mostly long-grain cultivars of intermediate and high amylose contents are used.

Statement II: During the bread manufacture, reducing agents such as L-cysteine, glutathione, and sodium metabisulfite is added to strengthen the dough structure.

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4466][Question Description = 116_50_DAI_SEP22_Q16]

1. Both Statement I and Statement II are true [Option ID = 17861]
2. Both Statement I and Statement II are false [Option ID = 17862]
3. Statement I is true but Statement II is false [Option ID = 17863]
4. Statement I is false but Statement II is true [Option ID = 17864]

17) Read the following options related to chemically leavened bakery products.

A. The dough formula of wafer and ice cream cone contains high sugar, essentially no fat, and a small amount of water.

B. Cracking pattern on the surface of cookies is due to the crystallization of sugar at the surface that no longer holds water to give a moist and moldable surface and expansion of cookies due to leavening.

C. The setting of cakes in the oven is partially due to the starch gelatinization and egg protein coagulation.

D. The egg white is an important component of the angel cake formula wherein the eggs and sugar are whipped to a protein

foam, and then the flour is folded in carefully so as not to disrupt the foam.

E. Bread formulas usually contain surfactants to increase the bread's softness and shelf life.

Choose the *correct* answer from the options given below:

[Question ID = 4467][Question Description = 117_50_DAI_SEP22_Q17]

1. A, B and D only [Option ID = 17865]
2. D and E only [Option ID = 17866]
3. A, B and C only [Option ID = 17867]
4. B, C, D and E only [Option ID = 17868]

18) Which of the following egg proteins binds riboflavin?

[Question ID = 4468][Question Description = 118_50_DAI_SEP22_Q18]

1. Ovomucoid [Option ID = 17869]
2. Flavoprotein [Option ID = 17870]
3. Avidin [Option ID = 17871]
4. Conalbumin [Option ID = 17872]

19) According to the Food Safety and Standards (Fortification of Foods) Regulations (2016), the level of vitamin D fortificant in fortified edible oil is between _____ (retinol equivalent, RE) per gram of oil.

[Question ID = 4469][Question Description = 119_50_DAI_SEP22_Q19]

1. 6 µg RE and 9.9 µg RE [Option ID = 17873]
2. 270 µg RE and 450 µg RE [Option ID = 17874]
3. 0.11 µg RE and 0.16 µg RE [Option ID = 17875]
4. 75 µg RE and 125 µg RE [Option ID = 17876]

20) Given below are two statements

Statement I: The type of recrystallization of ice crystals in which there is a change in surface shape or internal structure, usually resulting in a lower surface-area-to-volume ratio is called "accretive recrystallization".

Statement II: The type of recrystallization of ice crystals in which there is an increase in the average size and a reduction in the average number of crystals, caused by the growth of larger crystals at the expense of smaller crystals is called "Isomass recrystallization"

In light of the above statements, choose the *most appropriate* answer from the options given below

[Question ID = 4470][Question Description = 120_50_DAI_SEP22_Q20]

1. Both Statement I and Statement II are correct [Option ID = 17877]
2. Both Statement I and Statement II are incorrect [Option ID = 17878]
3. Statement I is correct but Statement II is incorrect [Option ID = 17879]
4. Statement I is incorrect but Statement II is correct [Option ID = 17880]

21) Food Borne illness that can be caused by a food service worker coughing or sneezing on food is

[Question ID = 4471][Question Description = 121_50_DAI_SEP22_Q21]

1. *Clostridium botulinum*

   [Option ID = 17881]
2. *S. aureus*

   [Option ID = 17882]
3. *E. coli*

   [Option ID = 17883]
4. *Salmonella typhimurium*

   [Option ID = 17884]

22) Pick the incorrect statement regarding drum drying[Question ID = 4472][Question Description = 122_50_DAI_SEP22_Q22]

1. Contact time 3 sec or less [Option ID = 17885]
2. Removal after ¾ to ⅞ revolution [Option ID = 17886]
3. Drum clearance 0.5 to 1.0 mm [Option ID = 17887]
4. Steam economy 1.6 to 2.5 units [Option ID = 17888]

23) Which of the following membrane separation technique would be most suitable for partial desalination of whey in dairy industry?[Question ID = 4473][Question Description = 123_50_DAI_SEP22_Q23]

1. Reverse osmosis [Option ID = 17889]

2. Nano filtration [Option ID = 17890]
3. Ultra filtration [Option ID = 17891]
4. Membrane filtration [Option ID = 17892]

24) In a food processing plant, a brine solution is heated from - 12 degree Celsius to - 65 degree Celsius in a double pipe parallel flow heat exchanger by water entering at 35 degree Celsius and leaving at 20.5 degree Celsius. Let the rate of flow is 9 kg/min. Estimate the area of heat exchanger for an overall heat transfer coefficient of 860 W/m^2 K. For water c_P = 4.186 * 10 ^{3} J/kg K[Question ID = 4474][Question Description = 124_50_DAI_SEP22_Q24]

1. 1.293 m^2 [Option ID = 17893]
2. 0.293 m^2 [Option ID = 17894]
3. 7.293 m^2 [Option ID = 17895]
4. 8.293 m^2 [Option ID = 17896]

25) A riveted joint does not fail by _____ of rivets.
(I) Tearing
(II) Shearing
(III) Tearing of the plate across a row
(IV) None of the above
Choose the *correct* answer from the options given below:

[Question ID = 4475][Question Description = 125_50_DAI_SEP22_Q25]

1. (I), (II) and (III) [Option ID = 17897]
2. (I) and (II) only [Option ID = 17898]
3. (I) and (III) only [Option ID = 17899]
4. (IV) only [Option ID = 17900]

26) What is Air Conditioning?
(I) Air Conditioning is the process of adding heat and increasing the humidity
(II) Air Conditioning is the process of removing heat and controlling the humidity of air in a closed space
(III) Air Conditioning is the process of controlling air moisture in an open area by adding heat

Choose the *correct* answer from the options given below:

[Question ID = 4476][Question Description = 126_50_DAI_SEP22_Q26]

1. (I) and (III) only

   [Option ID = 17901]
2. (I) only

   [Option ID = 17902]
3. (III) only

   [Option ID = 17903]
4. (II) only

   [Option ID = 17904]

27) Solenoid Valve is a[Question ID = 4477][Question Description = 127_50_DAI_SEP22_Q27]

1. Sensor [Option ID = 17905]
2. Controller [Option ID = 17906]
3. Control Device [Option ID = 17907]
4. Comparator [Option ID = 17908]

28) Requirement of condenser can possibly be avoided by use of[Question ID = 4478][Question Description = 128_50_DAI_SEP22_Q28]

1. Multi effect evaporator [Option ID = 17909]
2. Preheaters [Option ID = 17910]
3. TVR [Option ID = 17911]
4. MVR [Option ID = 17912]

29) The separation limit for a membrane is determined by the lowest _____ that can be separated.[Question ID = 4479][Question Description = 129_50_DAI_SEP22_Q29]

1. Fractional weight [Option ID = 17913]
2. Molecular weight [Option ID = 17914]
3. Ion weight [Option ID = 17915]
4. Mass [Option ID = 17916]

30) Some examples of heat exchanger are

(I) Condensers and evaporators in refrigeration units
(II) Evaporator of an ice plant and milk chiller of a pasteurizing plant
(III) Automobile radiators and oil coolers of heat engines
Identify the correct answer
Choose the *correct* answer from the options given below:

[Question ID = 4480][Question Description = 130_50_DAI_SEP22_Q30]
1. (I), (II) and (III) [Option ID = 17917]
2. (I) and (II) only [Option ID = 17918]
3. (I) and (III) only [Option ID = 17919]
4. (II) and (III) only [Option ID = 17920]

31) Match List I with List II

Laws	Physical properties
A. Raoult's Law	I. Electrode potential
B. Stokes law	II. Equivalent conductance
C. Kohlrausch's Law	III. Scattering of light by colloidal solution
D. Nernst equation	IV. Creaming phenomenon
	V. Vapour pressure of solution

Choose the correct answer from the options given below:

[Question ID = 4481][Question Description = 131_50_DAI_SEP22_Q31]
1. A - V, B - IV, C - II, D - I [Option ID = 17921]
2. A - V, B - IV, C - III, D - I [Option ID = 17922]
3. A - II, B - IV, C - V, D - I [Option ID = 17923]
4. A - II, B - III, C - V, D - I [Option ID = 17924]

32) _____ is used to estimate the fat content in cream

[Question ID = 4482][Question Description = 132_50_DAI_SEP22_Q32]
1. Stalagnometer [Option ID = 17925]
2. Butyrometer [Option ID = 17926]
3. Butyro-refractometer [Option ID = 17927]
4. Pycnometer [Option ID = 17928]

33) Triacylglycerols of milk fat can crystallize predominantly in _____ polymorphic forms[Question ID = 4483][Question Description = 133_50_DAI_SEP22_Q33]
1. α [Option ID = 17929]
2. α' [Option ID = 17930]
3. β [Option ID = 17931]
4. β' [Option ID = 17932]

34) Read the following statements about cow's milk allergy (CMA)
A. CMA is an inflammatory response to milk proteins.

B. It is distinct from lactose intolerance.

C. CMA is more prevalent in infants than in adults.

D. The dominant immunological mechanisms driving allergic reactions change with age.

E. Non-IgE-mediated reactions common in infancy and IgE-mediated reactions dominating in adults.

Choose the *correct* answer from the options given below:

[Question ID = 4484][Question Description = 134_50_DAI_SEP22_Q34]
1. A, B, C and D only [Option ID = 17933]
2. A, B, C and E only [Option ID = 17934]
3. B, C, D and E only [Option ID = 17935]
4. C, D and E only [Option ID = 17936]

35) Hehner test is used for detection of _____ in milk[Question ID = 4485][Question Description = 135_50_DAI_SEP22_Q35]
1. Hydrogen peroxide [Option ID = 17937]
2. Sodium chloride [Option ID = 17938]
3. Formalin [Option ID = 17939]
4. Anionic detergent [Option ID = 17940]

36) Given below are two statements

Statement I: Flame photometer is very useful to detect the alkali and alkaline earth metals from the colour of the flame.

Statement II: Flame photometer is used in analysis for the determination of Na, K, Ca & Fe in biological samples.

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4486][Question Description = 136_50_DAI_SEP22_Q36]

1. Both Statement I and Statement II are true [Option ID = 17941]
2. Both Statement I and Statement II are false [Option ID = 17942]
3. Statement I is true but Statement II is false [Option ID = 17943]
4. Statement I is false but Statement II is true [Option ID = 17944]

37) In 500 × g, what does this represent in accordance to centrifugation?[Question ID = 4487][Question Description = 137_50_DAI_SEP22_Q37]

1. Gravitational force [Option ID = 17945]
2. Centrifugal force is 500 times greater than earthly gravitational force [Option ID = 17946]
3. Centrifugal force is 500 times less than earthly gravitational force [Option ID = 17947]
4. It is the same as the speed of the rotor in rpm [Option ID = 17948]

38) Tandem mass spectroscopy combines which of the following devices?[Question ID = 4488][Question Description = 138_50_DAI_SEP22_Q38]

1. Mass spectrometer and gas-solid chromatography [Option ID = 17949]
2. Mass spectrometer and gas-liquid chromatography [Option ID = 17950]
3. Mass spectrometer and liquid chromatography [Option ID = 17951]
4. Mass spectrometer and Mass spectrometer [Option ID = 17952]

39) What is correct statement about accuracy in analytical measurement?

[Question ID = 4489][Question Description = 139_50_DAI_SEP22_Q39]

1. A measure of how often an experimental value can be repeated [Option ID = 17953]
2. The number of significant figures used in a measurement [Option ID = 17954]
3. The closeness of a measured value to the real value [Option ID = 17955]
4. It represents degree of reproducibility [Option ID = 17956]

40) How many acts were merged to enact Food Safety and Standards Act, 2006

[Question ID = 4490][Question Description = 140_50_DAI_SEP22_Q40]

1. 6 [Option ID = 17957]
2. 7 [Option ID = 17958]
3. 5 [Option ID = 17959]
4. 9 [Option ID = 17960]

41) Ingestion of performed toxin in food give rise to

[Question ID = 4491][Question Description = 141_50_DAI_SEP22_Q41]

1. Food infection

   [Option ID = 17961]
2. Food intoxication

   [Option ID = 17962]
3. Food toxico-infection

   [Option ID = 17963]
4. Food Allergy

   [Option ID = 17964]

42) Which of the following bacteria belongs to coliforms entering through fecal contamination?[Question ID = 4492] [Question Description = 142_50_DAI_SEP22_Q42]

1. *Escherichia coli* [Option ID = 17965]
2. *Enterobacter aerogenes* [Option ID = 17966]
3. Salmonella [Option ID = 17967]
4. Shigella [Option ID = 17968]

43) Which of the following bacteria are known to be food intoxicants?

A. *Staphylococcus aureus*

B. *Listeria monocytogenes*

C. *Clostridium botulinum*

D. *Salmonella* species

Choose the *correct* answer from the options given below

[Question ID = 4493][Question Description = 143_50_DAI_SEP22_Q43]

1. A and B [Option ID = 17969]
2. A and C [Option ID = 17970]
3. C and D [Option ID = 17971]
4. B and D [Option ID = 17972]

44) Arrange following fatty acids, in descending order of relative rate of oxidations

A. Stearic acid

B. Oleic acid

C. Linoleic acid

D. Linolenic acid

Choose the *correct* answer from the options given below

[Question ID = 4494][Question Description = 144_50_DAI_SEP22_Q44]

1. B, D, C, A [Option ID = 17973]
2. D,C,B, A [Option ID = 17974]
3. D,C, A, B [Option ID = 17975]
4. C, D, B, A [Option ID = 17976]

45) What is the correct ascending order of rays with respect to their wavelength

A. Gamma

B. Visible

C. Microwave

D. X rays

E. Radiowaves

Choose the *correct* answer from the options given below

[Question ID = 4495][Question Description = 145_50_DAI_SEP22_Q45]

1. E, C, A, B, D [Option ID = 17977]
2. E, C, B, D, A [Option ID = 17978]
3. E, C, D, A, B [Option ID = 17979]
4. E, D, C, B, A [Option ID = 17980]

46) Match List I with List II

List I	List II
Bacterial pathogens	Selective plating medium
A. *Bacillus cereus*	I. Xylose lysine deoxycholate citrate agar
B. *Listeria monocytogenes*	II.Baird Parker agar
C. *Staphylococcus aureus*	III. Mannitol egg yolk polymyxin agar
D. Salmonella	IV. PALCAM agar
	V. VRBA

Choose the correct answer from the options given below:

[Question ID = 4496][Question Description = 146_50_DAI_SEP22_Q46]

1. A - I, B - II, C - III, D - IV [Option ID = 17981]
2. A -III, B - IV, C - II, D - I [Option ID = 17982]
3. A-II, B - III, C - IV, D - V [Option ID = 17983]
4. A - V, B - IV, C -III, D - I [Option ID = 17984]

47) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R

Assertion A: Khoa and khoa-based sweets are more prone to *Staphylococcus aureus* contamination and food poisoning problems

Reason R: Human handlers are directly involved in the preparation of khoa and khoa-based sweets

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4497][Question Description = 147_50_DAI_SEP22_Q47]

1. Both **A** and **R** are true and **R** is the correct explanation of **A**

   [Option ID = 17985]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A**

   [Option ID = 17986]
3. **A** is true but **R** is false

   [Option ID = 17987]
4. **A** is false but **R** is true

   [Option ID = 17988]

48) Given below are two statements
Statement I: Clean milk is not always safe for consumption

Statement II: Milk is a carrier of potentially pathogenic bacteria

In light of the above statements, choose the *most appropriate* answer from the options given below

[Question ID = 4498][Question Description = 148_50_DAI_SEP22_Q48]

1. Both Statement I and Statement II are correct [Option ID = 17989]
2. Both Statement I and Statement II are incorrect [Option ID = 17990]
3. Statement I is correct but Statement II is incorrect [Option ID = 17991]
4. Statement I is incorrect but Statement II is correct [Option ID = 17992]

49) The enzyme responsible for bitty cream defects in cream[Question ID = 4499][Question Description = 149_50_DAI_SEP22_Q49]

1. Phospolipase [Option ID = 17993]
2. Lipase [Option ID = 17994]
3. Esterase [Option ID = 17995]
4. Proteases [Option ID = 17996]

50) What are the IMViC test results for *E.coli*?[Question ID = 4500][Question Description = 150_50_DAI_SEP22_Q50]

1. ++-- [Option ID = 17997]
2. --++ [Option ID = 17998]
3. --+- [Option ID = 17999]
4. -+-+ [Option ID = 18000]

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1) Given below are two statements
Statement I: At temperatures just below 0 deg C, staling of bread is rapid.

Statement II: Composing and blending of the mix for production of ice-cream is a continuous process.

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4651][Question Description = 101_108_DAE_SEP22_Q01]

1. Statement I is true but Statement II is false [Option ID = 18601]
2. Both Statement I and Statement II are true [Option ID = 18602]
3. Both Statement I and Statement II are false [Option ID = 18603]
4. Statement I is false but Statement II is true [Option ID = 18604]

2) Darcy's Formula for loss of pressure during flow through is[Question ID = 4652][Question Description = 102_108_DAE_SEP22_Q02]

1. 4 flV*V*V/2 gD [Option ID = 18605]
2. 2flV*V/4 gD [Option ID = 18606]
3. 4flV*V/ 2 gD [Option ID = 18607]
4. 2gD/ 4 flV*V [Option ID = 18608]

3) The type of fluid in which the viscosity decreases with the time, is called[Question ID = 4653][Question Description = 103_108_DAE_SEP22_Q03]

1. Pseudoplastic [Option ID = 18609]
2. Thixotropic [Option ID = 18610]
3. Rheopectic [Option ID = 18611]
4. Dilatent [Option ID = 18612]

4) Given below are two statements
Statement I: Bernoulli's equation can be applied to flow through pipes both, with and without friction.

Statement II: Air is an incompressible fluid.

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4654][Question Description = 104_108_DAE_SEP22_Q04]
1. Statement I is true but Statement II is false [Option ID = 18613]
2. Both Statement I and Statement II are true [Option ID = 18614]
3. Both Statement I and Statement II are false [Option ID = 18615]
4. Statement I is false but Statement II is true [Option ID = 18616]

5) When a material is subjected to the instantaneous application of a constant load or stress and the strain is measured as a function of time, the resulting curve is called[Question ID = 4655][Question Description = 105_108_DAE_SEP22_Q05]
1. Creep curve [Option ID = 18617]
2. Retarded elastic curve [Option ID = 18618]
3. Relaxation curve [Option ID = 18619]
4. Hysteresis curve [Option ID = 18620]

6) What is alternative name for freeze drying?[Question ID = 4656][Question Description = 106_108_DAE_SEP22_Q06]
1. Lyophilisation [Option ID = 18621]
2. Liposuction [Option ID = 18622]
3. Irradiation [Option ID = 18623]
4. Cold Pasteurisation [Option ID = 18624]

7) Given below are two statements
Statement I: In μ_a= τ/γ = Kγ(n-1) , n = consistency index and K is the flow behaviour index.

Statement II: n= 1 for Newtonian fluids, n<1 for="" dilatant="" fluids="" and="" n="">1 for pseudo plastic fluids.

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4657][Question Description = 107_108_DAE_SEP22_Q07]
1. Statement I is true but Statement II is false [Option ID = 18625]
2. Both Statement I and Statement II are true [Option ID = 18626]
3. Both Statement I and Statement II are false [Option ID = 18627]
4. Statement I is false but Statement II is true [Option ID = 18628]

8) When a granular powder's density is measured after the sample is placed in a constant volume container , which is vibrated until the volume seems to be constant is called,[Question ID = 4658][Question Description = 108_108_DAE_SEP22_Q08]
1. Particle density [Option ID = 18629]
2. Packed bulk density [Option ID = 18630]
3. Loose bulk density [Option ID = 18631]
4. Porous density [Option ID = 18632]

9) Which of the following is not the component of air supply system of a spray dryer?[Question ID = 4659][Question Description = 109_108_DAE_SEP22_Q09]
1. Set of pre filters [Option ID = 18633]
2. Heating system [Option ID = 18634]
3. Air distributer [Option ID = 18635]
4. Feed pump [Option ID = 18636]

10) With regards to milk evaporators, ratio of capacity to economy is known as _____

[Question ID = 4660][Question Description = 110_108_DAE_SEP22_Q10]
1. Water consumption per hour [Option ID = 18637]
2. Steam consumption per hour [Option ID = 18638]
3. Sediment consumption per hour [Option ID = 18639]
4. Milk consumption per hour [Option ID = 18640]

11) In a fluidized bed dryer the drying gas / air passed through the bed of solids at a velocity[Question ID = 4661][Question Description = 111_108_DAE_SEP22_Q11]
1. As low as possible to enhance the contact time [Option ID = 18641]
2. Sufficient to keep the bed in packed state [Option ID = 18642]
3. As high as possible to reduce the contact time [Option ID = 18643]
4. Sufficient to keep the bed in fluidized state [Option ID = 18644]

12) Vacuum fluctuation in the evaporation plant is NOT due to air leaks from[Question ID = 4662][Question Description = 112_108_DAE_SEP22_Q12]

1. Steam chest insulation [Option ID = 18645]
2. Cover and observation ports [Option ID = 18646]
3. Valves [Option ID = 18647]
4. Joints [Option ID = 18648]

13) Given below are two statements

Statement I: Cabinet tray dyers can be used for heat sensitive materials.

Statement II: Bin dryer is used for materials which follows the falling rate drying curve.

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4663][Question Description = 113_108_DAE_SEP22_Q13]

1. Statement I is true but Statement II is false [Option ID = 18649]
2. Both Statement I and Statement II are true [Option ID = 18650]
3. Both Statement I and Statement II are false [Option ID = 18651]
4. Statement I is false but Statement II is true [Option ID = 18652]

14) Coffee powders can be made from which of the following dryers?[Question ID = 4664][Question Description = 114_108_DAE_SEP22_Q14]

1. Pneumatic conveyor dryer [Option ID = 18653]
2. Drum dryer [Option ID = 18654]
3. Freeze dryer [Option ID = 18655]
4. Spray dryer [Option ID = 18656]

15) Given below are two statements

Statement I: In microwave heating, heat is not applied to the food item.

Statement II: Radiation doesn't give even drying whereas microwave heating does.

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4665][Question Description = 115_108_DAE_SEP22_Q15]

1. Statement I is true but Statement II is false [Option ID = 18657]
2. Both Statement I and Statement II are true [Option ID = 18658]
3. Both Statement I and Statement II are false [Option ID = 18659]
4. Statement I is false but Statement II is true [Option ID = 18660]

16) The voltage drop per membrane in an electrodialysis process is about _____V[Question ID = 4666][Question Description = 116_108_DAE_SEP22_Q16]

1. 2 [Option ID = 18661]
2. 10 [Option ID = 18662]
3. 4 [Option ID = 18663]
4. 400 [Option ID = 18664]

17) Which of the following are different forms of membrane filter construction?

(I) Hollow filter

(II) TMP

(III) Spiral wound

(IV) Ceramic

(V) Cross flow

(VI) Electro dialysis

Choose the *correct* answer from the options given below:

[Question ID = 4667][Question Description = 117_108_DAE_SEP22_Q17]

1. (I), (III), (IV) and (VI) [Option ID = 18665]
2. (I), (II), (III) and (IV) [Option ID = 18666]
3. (I) and (II) [Option ID = 18667]
4. (III) and (IV) [Option ID = 18668]

18) Which of the following law gives the relationship between the moles of water and the moles of solute in a solution and its water activity?[Question ID = 4668][Question Description = 118_108_DAE_SEP22_Q18]

1. Gibb's law [Option ID = 18669]
2. Charl's law [Option ID = 18670]

3. Raoult's law [Option ID = 18671]
4. Newton's Law [Option ID = 18672]

19) Given below are two statements

Statement I: Aqueous solution of sodium chloride has a higher water activity than sucrose.

Statement II: In an aqueous solution, sucrose creates structures in water and reduces water activity below what it should be based on concentration alone.

In light of the above statements, choose the *correct* answer from the options given below

[Question ID = 4669][Question Description = 119_108_DAE_SEP22_Q19]

1. Statement I is true but Statement II is false [Option ID = 18673]
2. Both Statement I and Statement II are true [Option ID = 18674]
3. Both Statement I and Statement II are false [Option ID = 18675]
4. Statement I is false but Statement II is true [Option ID = 18676]

20) The chemical potential of two component under conditions of constant temperature, pressure and volume will: _____[Question ID = 4670][Question Description = 120_108_DAE_SEP22_Q20]

1. Always come to equilibrium [Option ID = 18677]
2. Be equal at equilibrium [Option ID = 18678]
3. Kinetically come to equilibrium [Option ID = 18679]
4. Thermodynamically come to equilibrium [Option ID = 18680]

21) Permeability is calculated using
(I) Diffusion
(II) Solubility
(III) Permeance
(IV) Transmittivity
Choose the *correct* answer from the options given below:

[Question ID = 4671][Question Description = 121_108_DAE_SEP22_Q21]

1. (I) and (II) [Option ID = 18681]
2. (III) and (IV) [Option ID = 18682]
3. (II) and (III) [Option ID = 18683]
4. (I) and (IV) [Option ID = 18684]

22) Nusselt number is the ratio:[Question ID = 4672][Question Description = 122_108_DAE_SEP22_Q22]

1. Inertial force / viscous force [Option ID = 18685]
2. Inertial force / Pressure force [Option ID = 18686]
3. Heat of friction / Heat conducted [Option ID = 18687]
4. Convective heat / Heat conducted in medium [Option ID = 18688]

23) At 15°C, a steel pot with a 5 mm thick bottom is filled with liquid water (conductivity 50 W/m K). The pot has a 10 cm radius and is now placed on a stove with a heat transmission of 250 W. Calculate the temperature on the bottom of the outer pot assuming the inner surface is 15°C.[Question ID = 4673][Question Description = 123_108_DAE_SEP22_Q23]

1. 15.8°C [Option ID = 18689]
2. 16.8°C [Option ID = 18690]
3. 18.8°C [Option ID = 18691]
4. 19.8°C [Option ID = 18692]

24) The efficiency of regenerative Stirling cycle is ____ the efficiency of Carnot cycle.[Question ID = 4674][Question Description = 124_108_DAE_SEP22_Q24]

1. more than [Option ID = 18693]
2. less than [Option ID = 18694]
3. equal to [Option ID = 18695]
4. may be more or less depends on other conditions [Option ID = 18696]

25) On a heat transfer surface, fins are provided to[Question ID = 4675][Question Description = 125_108_DAE_SEP22_Q25]

1. Increase turbulence in flow for enhancing heat transfer [Option ID = 18697]
2. Pressure drop of the fluid should be minimized [Option ID = 18698]
3. Increase temperature gradient so as to enhance heat transfer [Option ID = 18699]
4. Surface area is maximum to promote the rate of heat transfer [Option ID = 18700]

26) The energy transfer between the hot fluid and cold fluids is brought about by their complete physical mixing

in[Question ID = 4676][Question Description = 126_108_DAE_SEP22_Q26]

1. Direct contact heat exchanger [Option ID = 18701]
2. Regenerators [Option ID = 18702]
3. Recuperators [Option ID = 18703]
4. Boilers [Option ID = 18704]

27) Which is true regarding lumped system analysis?
(I) Conductive resistance = 0
(II) Convective resistance = 0
(III) Thermal conductivity = 0
(IV) Thermal conductivity = infinity
Identify the correct statements
Choose the *correct* answer from the options given below:

[Question ID = 4677][Question Description = 127_108_DAE_SEP22_Q27]

1. (I) and (II) [Option ID = 18705]
2. (III) and (IV) [Option ID = 18706]
3. (II) and (III) [Option ID = 18707]
4. (I) and (IV) [Option ID = 18708]

28) Which among the following is the statement of the 'Fick's Law'?[Question ID = 4678][Question Description = 128_108_DAE_SEP22_Q28]

1. The molar flux of species relative to an observer moving with the molar average velocity is proportional to the concentration gradient of the species. [Option ID = 18709]
2. The mass flux of species relative to an observer moving with the molar average velocity is proportional to the concentration gradient of the species. [Option ID = 18710]
3. The molar flux of species relative to an observer moving with the mass average velocity is proportional to the concentration gradient of the species. [Option ID = 18711]
4. The molar flux of species relative to a stationary observer is proportional to the concentration gradient of the species. [Option ID = 18712]

29) Which of the following is not a type of corrosion?[Question ID = 4679][Question Description = 129_108_DAE_SEP22_Q29]

1. Selective leaching [Option ID = 18713]
2. Galvanic corrosion [Option ID = 18714]
3. Uniform corrosion [Option ID = 18715]
4. Sputtering corrosion [Option ID = 18716]

30) The most widely used criterion to restrict deformation is to[Question ID = 4680][Question Description = 130_108_DAE_SEP22_Q30]

1. Maintain the induced stresses within the elastic region [Option ID = 18717]
2. Maintain the induced stresses beyond the elastic region [Option ID = 18718]
3. Maintain the induced stresses beyond the plastic region [Option ID = 18719]
4. Maintain the induced stresses beyond the semi-plastic region [Option ID = 18720]

31) Circumferential (hoop) stress in a thin cylindrical vessel under internal pressure is _____ the longitudinal stress.
[Question ID = 4681][Question Description = 131_108_DAE_SEP22_Q31]

1. Half [Option ID = 18721]
2. Equal to [Option ID = 18722]
3. Twice [Option ID = 18723]
4. Eight times [Option ID = 18724]

32) Corrosion allowance in the design of pressure vessel/chemical equipment is not necessary, if
(I) Plain carbon steel and cast iron parts are used
(II) Wall thickness is > 30 mm
(III) Material of construction is high alloy steel
Choose the *correct* answer from the options given below:

[Question ID = 4682][Question Description = 132_108_DAE_SEP22_Q32]

1. (I), (II) and (III) [Option ID = 18725]
2. (I) and (II) only [Option ID = 18726]
3. (I) and (III) only [Option ID = 18727]
4. (II) and (III) only [Option ID = 18728]

33) Flanges are connected to pipes by
(I) Screwing

(II) Welding
(III) Brazing
Choose the *correct* answer from the options given below:

[Question ID = 4683][Question Description = 133_108_DAE_SEP22_Q33]
1. (I), (II) and (III) [Option ID = 18729]
2. (I) and (II) only [Option ID = 18730]
3. (I) and (III) only [Option ID = 18731]
4. (II) and (III) only [Option ID = 18732]

34) Hoop (circumferential) stress induced in a thin walled 'Horton Sphere' used for the storage of liquid ammonia under pressure is[Question ID = 4684][Question Description = 134_108_DAE_SEP22_Q34]
1. pD/2T [Option ID = 18733]
2. pD/4T [Option ID = 18734]
3. pD/3T [Option ID = 18735]
4. pD/6T [Option ID = 18736]

35) In a multipass shell and tube heat exchanger, the baffles on shell side is primarily provided for[Question ID = 4685] [Question Description = 135_108_DAE_SEP22_Q35]
1. Reducing scale deposition [Option ID = 18737]
2. Increasing pressure drop [Option ID = 18738]
3. Fixing the tubes [Option ID = 18739]
4. Creating turbulence [Option ID = 18740]

36) Among the following refrigerants, one with highest latent heat of vaporisation is[Question ID = 4686][Question Description = 136_108_DAE_SEP22_Q36]
1. R-11 [Option ID = 18741]
2. R-22 [Option ID = 18742]
3. R-134a [Option ID = 18743]
4. R-717 [Option ID = 18744]

37) Refrigerant will be entering in super heated condition into[Question ID = 4687][Question Description = 137_108_DAE_SEP22_Q37]
1. Evaporator [Option ID = 18745]
2. Compressor [Option ID = 18746]
3. Expansion valve [Option ID = 18747]
4. Receiver [Option ID = 18748]

38) If the Coefficient of performance of a heat pump is 5, then what is the value of the Coefficient of performance of the refrigerator operating under the same conditions?[Question ID = 4688][Question Description = 138_108_DAE_SEP22_Q38]
1. 0.2 [Option ID = 18749]
2. 3 [Option ID = 18750]
3. 4 [Option ID = 18751]
4. 6 [Option ID = 18752]

39) Why is the evaporator used in a refrigeration system?[Question ID = 4689][Question Description = 139_108_DAE_SEP22_Q39]
1. To absorb heat [Option ID = 18753]
2. To decrease the refrigeration effect [Option ID = 18754]
3. To reject heat [Option ID = 18755]
4. To improve C.O.P. [Option ID = 18756]

40) Which of the following process is used in summer air conditioning in tropical climate?[Question ID = 4690][Question Description = 140_108_DAE_SEP22_Q40]
1. Heating and Humidification [Option ID = 18757]
2. Cooling and Dehumidification [Option ID = 18758]
3. Dehumidification [Option ID = 18759]
4. Humidification [Option ID = 18760]

41) What is the efficiency of the coil, if BPF = 0.6913?[Question ID = 4691][Question Description = 141_108_DAE_SEP22_Q41]
1. 1.6913 [Option ID = 18761]
2. 0.4467 [Option ID = 18762]
3. 0.3087 [Option ID = 18763]
4. 1.4467 [Option ID = 18764]

42) TR for 1 kl BMC (assume 2 hr cool down time & ΔT = 35° C)[Question ID = 4692][Question Description = 142_108_DAE_SEP22_Q42]

1. 4.6 [Option ID = 18765]
2. 5.6 [Option ID = 18766]
3. 6.6 [Option ID = 18767]
4. Insufficient data [Option ID = 18768]

43) The smallest increment in the measured value that can be detected with certainty by the instrument is referred as[Question ID = 4693][Question Description = 143_108_DAE_SEP22_Q43]

1. Resolution [Option ID = 18769]
2. Desired inputs [Option ID = 18770]
3. Sensitivity [Option ID = 18771]
4. Random error [Option ID = 18772]

44) Dynamic Quantities :[Question ID = 4694][Question Description = 144_108_DAE_SEP22_Q44]

1. Vary rapidly with time [Option ID = 18773]
2. Remain constant with time [Option ID = 18774]
3. Are displaced from zero position [Option ID = 18775]
4. Never reach true value of measurand [Option ID = 18776]

45) Controllers play which of the following role in the control system?[Question ID = 4695][Question Description = 145_108_DAE_SEP22_Q45]

1. They act on the error signal coming out of the summing junction and output a suitable to the actuator [Option ID = 18777]
2. They try to reduce steady state error optimizes overshoot [Option ID = 18778]
3. They amplify the signals going to the actuator [Option ID = 18779]
4. They compare feedback to signal [Option ID = 18780]

46) Which of the following is not an example of thermocouple materials?[Question ID = 4696][Question Description = 146_108_DAE_SEP22_Q46]

1. Iron-Constantan [Option ID = 18781]
2. Chromel-Nickel [Option ID = 18782]
3. Platinum-Rhodium [Option ID = 18783]
4. Copper-Constantan [Option ID = 18784]

47) A thermometer reads 71.5 °C and the static correction given is +0.5°C. Determine the true value of the temperature. [Question ID = 4697][Question Description = 147_108_DAE_SEP22_Q47]

1. 72 °C [Option ID = 18785]
2. 71 °C [Option ID = 18786]
3. 71.5 °C [Option ID = 18787]
4. 72.5 °C [Option ID = 18788]

48) Determine the resolution of a voltmeter which has a range readout scale with 100 divisions and a full-scale reading of 100 V. If one tenth of a scale division can be read certainty, determine the resolution of the voltmeter.[Question ID = 4698][Question Description = 148_108_DAE_SEP22_Q48]

1. 0.1 V [Option ID = 18789]
2. 1 V [Option ID = 18790]
3. 10 V [Option ID = 18791]
4. 0.01 V [Option ID = 18792]

49) Pick the odd one out[Question ID = 4699][Question Description = 149_108_DAE_SEP22_Q49]

1. Thermistor [Option ID = 18793]
2. PT-100 [Option ID = 18794]
3. Thermometer [Option ID = 18795]
4. Manometer [Option ID = 18796]

50) In order to achieve maximum heat dissipation, the fin should be designed in such a way that has a[Question ID = 4700] [Question Description = 150_108_DAE_SEP22_Q50]

1. Maximum lateral surface towards the tip side of fin [Option ID = 18797]
2. Minimum lateral surface near the center line [Option ID = 18798]
3. Maximum lateral surface at the root side of fin [Option ID = 18799]
4. Maximum lateral surface near the center of fin [Option ID = 18800]