34 Dairy Chemistry 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]

Topic:- 34 Dairy Chemistry_PHD

1) Volumetric method for determination of lactose content in milk is[Question ID = 4501][Question Description = 101_49_DAC_SEP22_Q01]

1. Lane-Eynon method [Option ID = 18001]
2. Rose-Gottlieb's method [Option ID = 18002]
3. Polarimetric method [Option ID = 18003]
4. Werner Schmidt Method [Option ID = 18004]

2) Following test is used to check the adulteration of ghee with cottonseed oil[Question ID = 4502][Question Description = 102_49_DAC_SEP22_Q02]

1. Baudouin test [Option ID = 18005]
2. Halphen's test [Option ID = 18006]
3. Hexabromide test [Option ID = 18007]
4. Polybromide test [Option ID = 18008]

3) Citric acid in milk is estimated by[Question ID = 4503][Question Description = 103_49_DAC_SEP22_Q03]

1. Argentometric titration method [Option ID = 18009]
2. Pyridine-acetic anhydride method [Option ID = 18010]
3. Dye binding method [Option ID = 18011]
4. Pyne's method [Option ID = 18012]

4) From the following statements choose which are TRUE about redox potential (E_h) of milk

A. The E_h of milk is usually in the range +0.25 to +0.35 V at 25°C.

B. The concentration of ascorbic acid is the principal factor affecting the redox potential of milk.

C. Contamination of milk with copper tends to decrease the E_h.

D. The decrease in the E_h of milk caused by the growth of lactic acid bacteria.

E. Lowering of the E_h by heat treatment was observed due to the appearance of sulfhydryl reducing substances in milk.

[Question ID = 4504][Question Description = 104_49_DAC_SEP22_Q04]

1. A, B, C and D only [Option ID = 18013]
2. A, B,D and E only [Option ID = 18014]
3. A, B and C only [Option ID = 18015]
4. A, D and E only [Option ID = 18016]

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

Assertion A : Specific gravity of milk increases slowly when it is held for long period of time especially under cold storage after milking.

Reason R : Increase in the hydration of the protein at low temperature and slow solidification of fat as the major cause for such a phenomenon.

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

[Question ID = 4505][Question Description = 105_49_DAC_SEP22_Q05]

1. Both **A** and **R** are true and **R** is the correct explanation of **A** [Option ID = 18017]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A** [Option ID = 18018]
3. **A** is true but **R** is false [Option ID = 18019]
4. **A** is false but **R** is true [Option ID = 18020]

6) Match List I with List II

List I	List II
A. Rosalic acid test	I. Glucose
B. Iodine test	II. Milk fat
C. Leech test	III. Sodium hydroxide
D. Gerber test	IV. Formalin
	V. Starch

Choose the correct answer from the options given below:

[Question ID = 4506][Question Description = 106_49_DAC_SEP22_Q06]

1. A - V, B - I, C - IV, D - II [Option ID = 18021]
2. A - III, B - V, C - I, D - II [Option ID = 18022]
3. A - III, B - V, C - IV, D - II [Option ID = 18023]
4. A - IV, B - I, C - IV, D -II [Option ID = 18024]

7) Match List I with List II

Water soluble vitamin	Deficiency disease
A. Thiamin	I. Scurvy
B. Niacin	II. Pernicious anemia
C. Ascorbic acid	III. Cheilosis
D. Cyanocobalamin	IV. Pellagra
	V. Beri beri

Choose the correct answer from the options given below:

[Question ID = 4507][Question Description = 107_49_DAC_SEP22_Q07]

1. A - III, B - IV, C - I, D - V [Option ID = 18025]
2. A - V, B - IV, C - I, D - III [Option ID = 18026]
3. A - V, B - IV, C - I, D - II [Option ID = 18027]
4. A - III, B - IV, C - I, D - II [Option ID = 18028]

8) Enzyme plays a major role in the expression of lipid globules through the apical membrane of the mammocytes[Question ID = 4508][Question Description = 108_49_DAC_SEP22_Q08]

1. Plasmin [Option ID = 18029]
2. Xanthine oxidoreductase [Option ID = 18030]
3. Lipoprotein lipase [Option ID = 18031]
4. Alkaline phosphatase [Option ID = 18032]

9) Common property of all the fraction of casein is[Question ID = 4509][Question Description = 109_49_DAC_SEP22_Q09]

1. They contain glycosylated residues [Option ID = 18033]
2. They are sensitive to Ca^{2+} [Option ID = 18034]
3. Insolubilization at pH 4.6 [Option ID = 18035]
4. They contain disulphide bonds [Option ID = 18036]

10) From the below statements, choose which are TRUE about plasmin

A. Plasmin is the principal indigenous milk proteinase.

B. Plasmin is a quite heat labile proteinase in milk.

C. Plasmin activity increases during mastitic infection and in late lactation.

D. ß-Casein is the most susceptible milk protein to plasmin action.

E. Plasmin is completely inactivated by heating at 72°C x 15s.

[Question ID = 4510][Question Description = 110_49_DAC_SEP22_Q10]
1. A, B, C and D only [Option ID = 18037]
2. A, B, C and E only [Option ID = 18038]
3. B, C, D and E only [Option ID = 18039]
4. A, C and D only [Option ID = 18040]

11) Read the following statements about milk lipids
A. Lipids exist in milk in the form of globules.

B. Triacylglycerols make up the bulk of the milk lipids.

C. Milk fat contains a complex mixture of triacylglycerols.

D. Triacylglycerols are mainly found in the fat globule membrane.

E. Triacylglycerols have major influence on the melting properties of milk fat.

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

[Question ID = 4511][Question Description = 111_49_DAC_SEP22_Q11]
1. A, B, C and D only [Option ID = 18041]
2. A, B, C and E only [Option ID = 18042]
3. B, C, D and E only [Option ID = 18043]
4. A, C and D only [Option ID = 18044]

12) Given below are two statements, one is labelled as Assertion A and the other is labelled as Reason R
Assertion A : Sheep and goats do not transfer carotenoids into their milks which are, consequently, much whiter than bovine milk.

Reason R : ß-Carotene-15, 15'-oxygenase enzyme present in the intestinal mucosa of sheep and goat leads to conversion of ß-carotene to vitamin A.

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

[Question ID = 4512][Question Description = 112_49_DAC_SEP22_Q12]
1. Both **A** and **R** are true and **R** is the correct explanation of **A** [Option ID = 18045]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A** [Option ID = 18046]
3. **A** is true but **R** is false [Option ID = 18047]
4. **A** is false but **R** is true [Option ID = 18048]

13) Following vitamin is present at significant amount in milk fat[Question ID = 4513][Question Description = 113_49_DAC_SEP22_Q13]
1. Vitamin A [Option ID = 18049]
2. Vitamin D [Option ID = 18050]
3. Vitamin E [Option ID = 18051]
4. Vitamin K [Option ID = 18052]

14) Choose the *correct* statements about cholesterol from the options given below:

A. Cholesterol is the principal sterol in milk.

B. It accounts for only ~0.3% of total milk lipids.

C. Most of the cholesterol in milk lipid is in ester form.

D. Its level is higher in skimmed milk and buttermilk than in whole milk and cream.

E. Cholesterol is the precursor of all steroid hormones and bile salts.

[Question ID = 4514][Question Description = 114_49_DAC_SEP22_Q14]

1. A, B, C and D only [Option ID = 18053]
2. A, B, D and E only [Option ID = 18054]
3. B, C, D and E only [Option ID = 18055]
4. A, B and C only [Option ID = 18056]

15) Match List I with List II

Milk proteins	Biological activity
A. ß-Lactoglobulin	I. Stimulation of phagocytosis
B. α-Lactalbumin	II. Transport protein for retinol
C. Lactoferrin	III. Component of lactose synthetase
D. Immunoglobulins	IV. Carrier of calcium and phosphate
	V. Anticancer activity

Choose the correct answer from the options given below:

[Question ID = 4515][Question Description = 115_49_DAC_SEP22_Q15]

1. A - III, B - IV, C - I, D -V [Option ID = 18057]
2. A - II, B - III, C - V, D - I [Option ID = 18058]
3. A - V, B - IV, C - I, D - II [Option ID = 18059]
4. A - II, B - IV, C - I, D - V [Option ID = 18060]

16) Ghee prepared using _____will have highest amount of free fatty acids content.[Question ID = 4516][Question Description = 116_49_DAC_SEP22_Q16]

1. Creamery butter method [Option ID = 18061]
2. Direct cream method [Option ID = 18062]
3. Prestratification method [Option ID = 18063]
4. Desi butter method [Option ID = 18064]

17) Which of the following is anomer of lactose and has prebiotic property?

[Question ID = 4517][Question Description = 117_49_DAC_SEP22_Q17]

1. Epilactose [Option ID = 18065]
2. Lactitol [Option ID = 18066]
3. Lactulose [Option ID = 18067]
4. Lactobionic acid [Option ID = 18068]

18) Most potent antimicrobial peptide from whey protein[Question ID = 4518][Question Description = 118_49_DAC_SEP22_Q18]

1. Lactoferrin [Option ID = 18069]
2. Lactoferricin [Option ID = 18070]
3. Apo-lactoferrin [Option ID = 18071]
4. Apo-lactoferricin [Option ID = 18072]

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

Assertion A : Homogenization markedly increases the propensity of milk fat to oxidative rancidity.

Reason R : On homogenization there is a redistribution of the susceptible lipids and pro-oxidants of the milk fat globule membrane .

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

[Question ID = 4519][Question Description = 119_49_DAC_SEP22_Q19]

1. Both **A** and **R** are true and **R** is the correct explanation of **A** [Option ID = 18073]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A** [Option ID = 18074]
3. **A** is true but **R** is false [Option ID = 18075]
4. **A** is false but **R** is true [Option ID = 18076]

20) From the following given statements choose the one which are TRUE with respect to casein micelles

A. The micelles are highly hydrated, binding about 2.0 g water per gram protein.

B. Casein micelles are generally spherical in shape, with diameters ranging from 50 to 500 µm.

C. Its molecular mass ranging from 10^6 to 10^9 Da.

D. The surface area of the micelles is very large.

E. They are capable of scattering light.

[Question ID = 4520][Question Description = 120_49_DAC_SEP22_Q20]

1. A, B, C and D only [Option ID = 18077]
2. B, C, D and E only [Option ID = 18078]
3. A, C, D and E only [Option ID = 18079]
4. A, B and C only [Option ID = 18080]

21) Pond water is added to the milk to increase the specific gravity because it contains_____

[Question ID = 4521][Question Description = 121_49_DAC_SEP22_Q21]

1. Nitrates [Option ID = 18081]
2. Urea [Option ID = 18082]
3. Ammonium salts [Option ID = 18083]
4. Phosphates [Option ID = 18084]

22) Ash content of human milk is[Question ID = 4522][Question Description = 122_49_DAC_SEP22_Q22]

1. 0.6% [Option ID = 18085]
2. 0.7% [Option ID = 18086]
3. 0.5% [Option ID = 18087]
4. 0.2% [Option ID = 18088]

23) Non-enzymatic browning of milk and milk products is principally due to interaction between

[Question ID = 4523][Question Description = 123_49_DAC_SEP22_Q23]

1. Glucose and galactose [Option ID = 18089]
2. Lysine and arginine [Option ID = 18090]
3. Lactose and casein [Option ID = 18091]
4. Lactose and chloride [Option ID = 18092]

24) Highest fat per cent found in

[Question ID = 4524][Question Description = 124_49_DAC_SEP22_Q24]

1. Cow milk

   [Option ID = 18093]
2. Goat milk

   [Option ID = 18094]
3. Buffalo milk

   [Option ID = 18095]
4. Camel milk

   [Option ID = 18096]

25) The most variable contituent in milk is

[Question ID = 4525][Question Description = 125_49_DAC_SEP22_Q25]

1. Lactose [Option ID = 18097]
2. Fat [Option ID = 18098]
3. Protein [Option ID = 18099]
4. Minerals [Option ID = 18100]

26) Which of the following is true about minerals in milk?

[Question ID = 4526][Question Description = 126_49_DAC_SEP22_Q26]

1. Minerals exist in the colloidal phase only [Option ID = 18101]
2. About 65–70% of total calcium and 50% of total inorganic phosphate are present as CCP [Option ID = 18102]
3. Temperature and pH has no effect on mineral balance in milk [Option ID = 18103]
4. Increasing temperature increases ionic calcium [Option ID = 18104]

27) Which of the following milk is best example of Type B milk in terms of heat stability?

[Question ID = 4527][Question Description = 127_49_DAC_SEP22_Q27]

1. Cow milk [Option ID = 18105]
2. Human milk [Option ID = 18106]
3. Camel milk [Option ID = 18107]
4. Ovine milk [Option ID = 18108]

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

Assertion A : The ratio of κ -casein (on the surface of casein micelles) to ß -Lg determines whether a milk is of Type-A or Type-B

Reason R : ß-Lg / κ- casein interaction determines the shape of HCT/pH curve

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

[Question ID = 4528][Question Description = 128_49_DAC_SEP22_Q28]

1. Both **A** and **R** are true and **R** is the correct explanation of **A** [Option ID = 18109]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A** [Option ID = 18110]
3. **A** is true but **R** is false [Option ID = 18111]
4. **A** is false but **R** is true [Option ID = 18112]

29) Match List I with List II

List I	List II
Enzyme	Source
A. Papain	I. *Ananas comosus*
B. Ficin	II. *Ficus carica*
C. Bromolein	III. *Cucurbita pepo*
D. Pumpkin	IV. *Carica papaya*

Choose the correct answer from the options given below:

[Question ID = 4529][Question Description = 129_49_DAC_SEP22_Q29]

1. A - IV, B - III, C - II, D - I [Option ID = 18113]
2. A - IV, B - III, C - I, D - II [Option ID = 18114]
3. A - IV, B - II, C - I, D - III [Option ID = 18115]
4. A - IV, B - I, C - II, D - III [Option ID = 18116]

30) Which of the following is NOT a permitted additive in khoya as per FSSR?

[Question ID = 4530][Question Description = 130_49_DAC_SEP22_Q30]

1. Glucono delta lactone [Option ID = 18117]
2. Nisin [Option ID = 18118]
3. Propionic acid [Option ID = 18119]
4. Carrageenan [Option ID = 18120]

31) Which of these acidity regulators are NOT permitted for use in foods by FSSR?

[Question ID = 4531][Question Description = 131_49_DAC_SEP22_Q31]

1. Malic acid [Option ID = 18121]
2. Succinic acid [Option ID = 18122]
3. Lactic acid [Option ID = 18123]
4. Citric acid [Option ID = 18124]

32) Compound responsible for flavour of blue cheese is

[Question ID = 4532][Question Description = 132_49_DAC_SEP22_Q32]

1. Methanethiol [Option ID = 18125]
2. Methyl ketones [Option ID = 18126]
3. Diacetyl [Option ID = 18127]
4. Lactone [Option ID = 18128]

33) Which of the following compound is a precursor of hydroxyl methyl furfural?

[Question ID = 4533][Question Description = 133_49_DAC_SEP22_Q33]

1. 2,3-Enediol [Option ID = 18129]
2. 1,2-Eneaminol [Option ID = 18130]
3. Methyl α-dicarbonyl [Option ID = 18131]
4. Diacetyl [Option ID = 18132]

34) ISO 19011:2018, Quality Management System deals with

[Question ID = 4534][Question Description = 134_49_DAC_SEP22_Q34]

1. Specification with guidance for use [Option ID = 18133]
2. Customer satisfaction [Option ID = 18134]
3. Guidelines for performance improvement [Option ID = 18135]

4. Guidelines for auditing management systems [Option ID = 18136]

35) "Not for Phenylketoneurics" shall carry on the label if the food product contains following sweetener

[Question ID = 4535][Question Description = 135_49_DAC_SEP22_Q35]

1. Aspartame [Option ID = 18137]
2. Sucralose [Option ID = 18138]
3. Neotame [Option ID = 18139]
4. Acesulfame K [Option ID = 18140]

36) Sum of all mobile packaging components released per unit area packaging material under defined condition is called[Question ID = 4536][Question Description = 136_49_DAC_SEP22_Q36]

1. Specific migration [Option ID = 18141]
2. Overall migration [Option ID = 18142]
3. Diffusion [Option ID = 18143]
4. Non-migration [Option ID = 18144]

37) Given below are two statements

Statement I: TBTare the catagory of non-tarrif barriers to trade under WTO aggrement

Statement II: TBT have the greatest impact on agriculture due to sanitary & phytosanitary designed to protect humans, animals, plants from disease, pest and other contaminants

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

[Question ID = 4537][Question Description = 137_49_DAC_SEP22_Q37]

1. Both Statement I and Statement II are correct

   [Option ID = 18145]
2. Both Statement I and Statement II are incorrect

   [Option ID = 18146]
3. Statement I is correct but Statement II is incorrect

   [Option ID = 18147]
4. Statement I is incorrect but Statement II is correct

   [Option ID = 18148]

38) In a mixture of the five molecules listed below, which should elute second in size-exclusion (gel permeation) chromatography? MW = 13,000; MW = 145,000; MW = 13,700; MW = 450,000 and MW = 68,500.

[Question ID = 4538][Question Description = 138_49_DAC_SEP22_Q38]

1. MW: 13,700

   [Option ID = 18149]
2. MW: 145,000

   [Option ID = 18150]
3. MW: 68,500

   [Option ID = 18151]
4. MW: 450,000

   [Option ID = 18152]

39) Given below are two statements

Statement I: Wavelength accuracy calibration of a UV-Vis Spectrophotometer is carried out by traceable Potassium dichromate solution

Statement II: Holmium oxide quartz and Didymium Glass filters are used for wavelength accuracy calibration of a UV-Vis Spectrophotometer

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

[Question ID = 4539][Question Description = 139_49_DAC_SEP22_Q39]

1. Both Statement I and Statement II are correct [Option ID = 18153]
2. Both Statement I and Statement II are incorrect [Option ID = 18154]
3. Statement I is correct but Statement II is incorrect [Option ID = 18155]
4. Statement I is incorrect but Statement II is correct [Option ID = 18156]

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

Assertion A : Stretching of cheese depends on amount of total calcium that is available for casein crosslinking

Reason R : During stretching of cheese, paracaseinate is converted to monocalcium pracaseinate (between pH 5.2 to 5.4) and then to dicalcium paracaseinate (at pH 5.2)

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

[Question ID = 4540][Question Description = 140_49_DAC_SEP22_Q40]

1. Both **A** and **R** are true and **R** is the correct explanation of **A** [Option ID = 18157]
2. Both **A** and **R** are true but **R** is NOT the correct explanation of **A** [Option ID = 18158]
3. **A** is true but **R** is false [Option ID = 18159]
4. **A** is false but **R** is true [Option ID = 18160]

41) Pre-gastric esterases are used in the ripening of which type of cheeses?

[Question ID = 4541][Question Description = 141_49_DAC_SEP22_Q41]

1. Swiss type cheese [Option ID = 18161]
2. Italian type cheese [Option ID = 18162]
3. Gouda cheese [Option ID = 18163]
4. Cheddar cheese [Option ID = 18164]

42) As per FSSR, nutritional Information per 100 gm of the product shall be given on the label containing the following

A. Energy value in kcal

B. The amounts of protein, carbohydrate and fat

C. Health claims of the nutrients

D. Specific quantity of different sugars

E. Risk reduction in the context of health claims

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

[Question ID = 4542][Question Description = 142_49_DAC_SEP22_Q42]

1. A, B, C, D and E [Option ID = 18165]
2. A, B and C only [Option ID = 18166]
3. A, B and D only [Option ID = 18167]
4. A, B and E only [Option ID = 18168]

43) Which of the following Gas Chromatography column has higher seperation efficiency?

[Question ID = 4543][Question Description = 143_49_DAC_SEP22_Q43]

1. Packed column [Option ID = 18169]
2. Wall Coated open tubular column [Option ID = 18170]
3. Support-coated open tubular column [Option ID = 18171]
4. Fused Silica Open tubular column [Option ID = 18172]

44) The Molar extinction coefficient (e) of Aflatoxin B1 is 22,300 in Chloroform at 352 nm. The molecular mass of Aflatoxin is 312 amu. The A352 of 5 ml unknown solution in chloroform was 0.011. What is the concentration of Aflatoxin B1 in the unknown?[Question ID = 4544][Question Description = 144_49_DAC_SEP22_Q44]

1. 0.049 micromoles L^{-1} [Option ID = 18173]
2. 0.490 micromole L^{-1} [Option ID = 18174]
3. 0.220 moles L^{-1} [Option ID = 18175]
4. 0.022 moles L^{-1} [Option ID = 18176]

45) As per FSSR, camel milk has fat and SNFs[Question ID = 4545][Question Description = 145_49_DAC_SEP22_Q45]

1. Fat 2%, SNF 6% [Option ID = 18177]
2. Fat 3%, SNF 8% [Option ID = 18178]
3. Fat 1.5%, SNF 9% [Option ID = 18179]
4. Fat 3.2%, SNF 8.3% [Option ID = 18180]

46) Which of the following sequence of amino acid on k-casein are important for rennet action?

[Question ID = 4546][Question Description = 146_49_DAC_SEP22_Q46]

1. Met103-Phe108 [Option ID = 18181]
2. Gly103-Phe108 [Option ID = 18182]
3. Leu103-Ileu108 [Option ID = 18183]
4. His103-Lys108 [Option ID = 18184]

47) Which of the following is NOT a correct statement?

[Question ID = 4547][Question Description = 147_49_DAC_SEP22_Q47]

1. pH range of weak acid buffer is pKa±1

   [Option ID = 18185]
2. Buffering capacity of weak acid buffer is maintained for acid:salt ratio in range of 1:10 to 10:1

   [Option ID = 18186]
3. Buffering capacity of a weak acid buffer is given by number of moles of strong base required to change pH of 1 Lit of solution by 1 unit

   [Option ID = 18187]
4. For a salt of weak acid and weak base solution is acidic if kb>Ka

   [Option ID = 18188]

48) Zero defect is a performance evaluation in which of the following quality related theory?

[Question ID = 4548][Question Description = 148_49_DAC_SEP22_Q48]

1. Pareto principle [Option ID = 18189]
2. Juran's theory [Option ID = 18190]
3. Crosby Theory [Option ID = 18191]
4. Deming theory [Option ID = 18192]

49) Which of the following enzyme present in milk fat globule membrane[Question ID = 4549][Question Description = 149_49_DAC_SEP22_Q49]

1. Butyrophilin [Option ID = 18193]
2. Xanthine oxidase [Option ID = 18194]
3. Alkaline phosphatase [Option ID = 18195]
4. 5'-nucleotidase [Option ID = 18196]

50) Which of the following represent Kreis Reagent used in the Kreis test

[Question ID = 4550][Question Description = 150_49_DAC_SEP22_Q50]

1. Malondialdehyde

   [Option ID = 18197]
2. Phloroglucinol

   [Option ID = 18198]
3. p-methoxyaniline

   [Option ID = 18199]
4. Acetic acid and HBr

   [Option ID = 18200]