DAIRY TECHNOLOGY ICAR SEPT 2022

Topic:- 17 DAIRY TECHNOLOGY_PG

1) The principal compound that is responsible for the stretch quality of Mozzarella cheese is-[Question ID = 1201][Question Description = 101_20_DAI_AUG22_Q01]

1. Dicalcium para-caseinate [Option ID = 4801]
2. Monocalcium para-caseinate [Option ID = 4802]
3. para-casein [Option ID = 4803]
4. Calcium phosphate [Option ID = 4804]

2) In the manufacture of Cheddar cheese curd is milled at an acidity of-

[Question ID = 1202][Question Description = 102_20_DAI_AUG22_Q02]

1. 0.45 to 0.50% LA [Option ID = 4805]
2. 0.25 to 0.35% LA [Option ID = 4806]
3. 0.55 to 0.65% LA [Option ID = 4807]
4. 0.20 to 0.25% LA [Option ID = 4808]

3) Given below are two statements

Statement I: During the manufacture of Mozzarella cheese, the curd is stretched and kneaded at pH between 5.2 and 5.4.

Statement II: During the manufacture of Pasta filata-type cheese, the curd is stretched and kneaded at pH 5.8 to pH 6.2.

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

[Question ID = 1203][Question Description = 103_20_DAI_AUG22_Q03]

1. Both Statement I and Statement II are true [Option ID = 4809]
2. Both Statement I and Statement II are false [Option ID = 4810]
3. Statement I is true but Statement II is false [Option ID = 4811]
4. Statement I is false but Statement II is true [Option ID = 4812]

4) Presence of excess fat in casein during drying may result in -[Question ID = 1204][Question Description = 104_20_DAI_AUG22_Q04]

1. high adhesive strength [Option ID = 4813]
2. low adhesive strength [Option ID = 4814]
3. brittleness [Option ID = 4815]
4. browning [Option ID = 4816]

5) The annatto colour used in cheese making is

[Question ID = 1205][Question Description = 105_20_DAI_AUG22_Q05]

1. Carotene [Option ID = 4817]
2. Xanthophyll [Option ID = 4818]
3. Bixin [Option ID = 4819]
4. Norbixin [Option ID = 4820]

6) Which one of the following additives is added to cheese milk to improve the firmness of the curd?

[Question ID = 1206][Question Description = 106_20_DAI_AUG22_Q06]

1. Potassium chloride [Option ID = 4821]
2. Calcium chloride [Option ID = 4822]
3. Sodium chloride [Option ID = 4823]
4. Sodium citrate [Option ID = 4824]

7) Which of the following is correct with regard to development of bitterness in cheese?

A. Poor quality milk

B. Low salt-to-moisture ratio in cheese

C. High solids content in cheese

D. Poor quality starter culture

Choose the *correct* answer from the options given below

[Question ID = 1207][Question Description = 107_20_DAI_AUG22_Q07]

1. A, B and C only [Option ID = 4825]
2. B, C and D only [Option ID = 4826]
3. A, B and D only [Option ID = 4827]
4. A, C and D only [Option ID = 4828]

8) "Eyes" is a defect in-[Question ID = 1208][Question Description = 108_20_DAI_AUG22_Q08]

1. Gouda cheese [Option ID = 4829]
2. Roqefort cheese [Option ID = 4830]
3. Edam cheese [Option ID = 4831]
4. Emmentalar cheese [Option ID = 4832]

9) Which of the following is correct with regard to rennet clotting of milk?

A. Addition of Meito coagulating enzyme to milk.

B. Adding Calcium cloride to decrease the rennet clotting time.

C. Addition of Sodium chloride for quick rennet clotting of milk.

D. Use of sterilized milk for rennet coagulation.

Choose the *correct* answer from the options given below

[Question ID = 1209][Question Description = 109_20_DAI_AUG22_Q09]

1. A, B and C only [Option ID = 4833]
2. B, C and D only [Option ID = 4834]
3. A and B only [Option ID = 4835]
4. B and D only [Option ID = 4836]

10) Which of the following statements is NOT true?

[Question ID = 1210][Question Description = 110_20_DAI_AUG22_Q10]

1. Edam cheese is a dutch variety. [Option ID = 4837]
2. Buffalo milk clots faster than cow milk. [Option ID = 4838]
3. Quarg is a ripened cheese. [Option ID = 4839]
4. Chymosin is a coagulating enzyme. [Option ID = 4840]

11) Addition of 1.0 percent sodium chloride to milk has the following effect on rennet clotting time (RCT).[Question ID = 1211][Question Description = 111_20_DAI_AUG22_Q11]

1. Decrease RCT [Option ID = 4841]
2. Increase RCT [Option ID = 4842]
3. No effect on RCT [Option ID = 4843]
4. No clotting [Option ID = 4844]

12) Which of the following is NOT a whey protein?

[Question ID = 1212][Question Description = 112_20_DAI_AUG22_Q12]

1. Phosphatidile choline [Option ID = 4845]
2. Immunoglobulin [Option ID = 4846]
3. Bovine serum [Option ID = 4847]
4. α-lactalbumin [Option ID = 4848]

13) Given below are two statements

Statement I: For the manufacture of good quality Cheddar cheese ,the fresh curd should have optimum moisture, pH, starter organisms and salt to moisture ratio.

Statement II: For the development of good flavour and body & texture in Cheddar cheese, the cheese should be ripened at appropriate temperature and humidity.

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

[Question ID = 1213][Question Description = 113_20_DAI_AUG22_Q13]

1. Both Statement I and Statement II are true [Option ID = 4849]
2. Both Statement I and Statement II are false [Option ID = 4850]
3. Statement I is true but Statement II is false [Option ID = 4851]
4. Statement I is false but Statement II is true [Option ID = 4852]

14) Enzyme that causes hydrolysis of lactose in cheese whey is-[Question ID = 1214][Question Description = 114_20_DAI_AUG22_Q14]

1. Glucose oxidase [Option ID = 4853]
2. ß-galactosidase [Option ID = 4854]
3. Lipase [Option ID = 4855]
4. α-amylase [Option ID = 4856]

15) Given below are two statements

Statement I: Bactofugation process removes almost all bacterial cells and spores including heat resistant spores from milk and provides a biologically clean environment for making good quality cheese.

Statement II: Bactofugation prevents late blowing defect in semi-hard or hard variety of cheeses due to removal of anaerobic microorganisms. This process weakens the coagulum during cheese making which can be overcome by addition of calcium chloride.

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

[Question ID = 1215][Question Description = 115_20_DAI_AUG22_Q15]

1. Both Statement I and Statement II are true [Option ID = 4857]
2. Both Statement I and Statement II are false [Option ID = 4858]
3. Statement I is true but Statement II is false [Option ID = 4859]
4. Statement I is false but Statement II is true [Option ID = 4860]

16) Which of the following is correct with regard to problems assiciated with Buffalo milk Cheddar cheese.

A. Faster renneting time and lower retention of moisture in cheese

B. Faster acidity development in cheese

C. Slower proteolysis and lipolysis during ripening of cheese

D. Hard , rubbery and dry body texture development

Choose the *correct* answer from the options given below

[Question ID = 1216][Question Description = 116_20_DAI_AUG22_Q16]

1. A, B and C only [Option ID = 4861]
2. A, C and D only [Option ID = 4862]
3. B, C and D only [Option ID = 4863]
4. A, B and D only [Option ID = 4864]

17) Which of the following membrane technology allows retention of lactose, protein, fat and minerals?[Question ID = 1217][Question Description = 117_20_DAI_AUG22_Q17]

1. Reverse Osmosis [Option ID = 4865]
2. Ultrafiltration [Option ID = 4866]
3. Diafiltration [Option ID = 4867]
4. Microfiltration [Option ID = 4868]

18) The pour size of reverse osmosis membrane is about[Question ID = 1218][Question Description = 118_20_DAI_AUG22_Q18]

1. 1 nm [Option ID = 4869]
2. 0.2 nm [Option ID = 4870]
3. 0.4 nm [Option ID = 4871]
4. 0.8 nm [Option ID = 4872]

19) ISSHE type heat exchanger could be used in the continuous production of

[Question ID = 1219][Question Description = 119_20_DAI_AUG22_Q19]

1. Rasogolla [Option ID = 4873]
2. Paneer [Option ID = 4874]
3. Khoa [Option ID = 4875]
4. Sandesh [Option ID = 4876]

20) Which of the following is/are reason(s) of heat coagulation of milk during khoa production?

A. Altered salt balance

B. Decrease in pH due to concentration

C. Increase in total solids content of milk

D. High temperature

E. Continuous stirring

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

[Question ID = 1220][Question Description = 120_20_DAI_AUG22_Q20]

1. B and E only [Option ID = 4877]
2. B, C and D only [Option ID = 4878]
3. A, B, C and D only [Option ID = 4879]
4. B only [Option ID = 4880]

21) The frying temperature of gulab jamun balls during industrial scale production of is _____.

[Question ID = 1221][Question Description = 121_20_DAI_AUG22_Q21]

1. 140ºC [Option ID = 4881]
2. 132ºC [Option ID = 4882]
3. 148ºC [Option ID = 4883]
4. 128ºC [Option ID = 4884]

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

Assertion A: Milk is heated to high temperature (90-95°C) prior to coagulation during paneer preparation.

Reason R: It imparts desirable cooked flavour in paneer, enhances shelf life of paneer, helps in rapid isoelectric precipitation, helps to develop typical body and texture attribute of paneer.

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

[Question ID = 1222][Question Description = 122_20_DAI_AUG22_Q22]

1. Both **A** and **R** are correct and **R** is the correct explanation of **A** [Option ID = 4885]
2. Both **A** and **R** are correct but **R** is NOT the correct explanation of **A** [Option ID = 4886]
3. **A** is correct but **R** is not correct [Option ID = 4887]
4. **A** is not correct but **R** is correct [Option ID = 4888]

23) The moisture content and yield of chhana made with citric acid are usually

[Question ID = 1223][Question Description = 123_20_DAI_AUG22_Q23]

1. 55-88% and 24-25% [Option ID = 4889]
2. 65-67% and 17-18% [Option ID = 4890]
3. 65-67% and 24-25% [Option ID = 4891]
4. 55-58% and 17-18% [Option ID = 4892]

24) Approximately how much quantity of 1% citric acid solution is required to coagulate one litre of fresh cow milk at 80ºC?
[Question ID = 1224][Question Description = 124_20_DAI_AUG22_Q24]

1. 200 ml [Option ID = 4893]
2. 150 ml [Option ID = 4894]
3. 300 ml [Option ID = 4895]
4. 900 ml [Option ID = 4896]

25) The length of the longest edge of lactose crystal to prevent sandiness defect in sweetened condensed milk should be not more than _____.

[Question ID = 1225][Question Description = 125_20_DAI_AUG22_Q25]

1. 23 microns [Option ID = 4897]
2. 12 microns [Option ID = 4898]
3. 15 microns [Option ID = 4899]
4. 29 microns [Option ID = 4900]

26) Minimum temperature range of heating for perceiving cooked flavour in milk is

[Question ID = 1226][Question Description = 126_20_DAI_AUG22_Q26]

1. 70-74ºC [Option ID = 4901]
2. 76-78ºC [Option ID = 4902]
3. 80-84ºC [Option ID = 4903]
4. 90-92ºC [Option ID = 4904]

27) Which of the following defects in butter is characterised by lacking in plasticity and waxiness?[Question ID = 1227]
[Question Description = 127_20_DAI_AUG22_Q27]

1. Short [Option ID = 4905]

2. Mealy [Option ID = 4906]
3. Greasy [Option ID = 4907]
4. Rugged boring [Option ID = 4908]

28) Total how many samples are offered for sensory evaluation in Duo Trio test?[Question ID = 1228][Question Description = 128_20_DAI_AUG22_Q28]

1. Only 3 [Option ID = 4909]
2. Only 2 [Option ID = 4910]
3. Only 4 [Option ID = 4911]
4. Either 2 or 3 [Option ID = 4912]

29) Which of the following microorganisms is responsible for gassy body in sweetened condensed milk?[Question ID = 1229] [Question Description = 129_20_DAI_AUG22_Q29]

1. *Aspergillus glaucus* [Option ID = 4913]
2. *Escherichia coli* [Option ID = 4914]
3. *Torula lactis condensi* [Option ID = 4915]
4. *Streptococcus lactic* subsp. *Maltigens* [Option ID = 4916]

30) Which of the following is a characteristic of Leaky butter?[Question ID = 1230][Question Description = 130_20_DAI_AUG22_Q30]

1. Dry appearance that readily falls apart [Option ID = 4917]
2. Presence of moisture in the sampling device [Option ID = 4918]
3. Rugged surface of butter [Option ID = 4919]
4. Presence of coloured specks [Option ID = 4920]

31) Which of the following is NOT responsible for flat flavour in Cheddar cheese?

[Question ID = 1231][Question Description = 131_20_DAI_AUG22_Q31]

1. Low curing temperature [Option ID = 4921]
2. Short ripening time [Option ID = 4922]
3. Use of low fat milk [Option ID = 4923]
4. Low cooking temperature [Option ID = 4924]

32) Which among the following is NOT a physical sense?

[Question ID = 1232][Question Description = 132_20_DAI_AUG22_Q32]

1. Hearing [Option ID = 4925]
2. Touch [Option ID = 4926]
3. Smell [Option ID = 4927]
4. Temperature [Option ID = 4928]

33) Which of the following is a high protein milk powder that has both the proteins of milk in near native state?

[Question ID = 1233][Question Description = 133_20_DAI_AUG22_Q33]

1. Ricotta powder [Option ID = 4929]
2. Calcium co-precipitate [Option ID = 4930]
3. Demineralized whey powder [Option ID = 4931]
4. Milk protein concentrate [Option ID = 4932]

34) Bactocatch process had been developed by:[Question ID = 1234][Question Description = 134_20_DAI_AUG22_Q34]

1. Alfa-Laval [Option ID = 4933]
2. GEA-Westfalia [Option ID = 4934]
3. IDMC [Option ID = 4935]
4. L & T [Option ID = 4936]

35) Information on heat classification of milk powder CANNOT be obtained using which of the following indices?

[Question ID = 1235][Question Description = 135_20_DAI_AUG22_Q35]

1. Whey protein nitrogen index [Option ID = 4937]
2. Cysteine number [Option ID = 4938]
3. Casein number [Option ID = 4939]
4. Urea number [Option ID = 4940]

36) Which of the following processes results in instant solubility of dried milk?

[Question ID = 1236][Question Description = 136_20_DAI_AUG22_Q36]

1. Sublimation process [Option ID = 4941]

2. Microfludization process [Option ID = 4942]
3. Re-wet process [Option ID = 4943]
4. Extrusion process [Option ID = 4944]

37) During the manufacture of whipping cream which of the following processes improves whipping property?

[Question ID = 1237][Question Description = 137_20_DAI_AUG22_Q37]

1. Homogenization [Option ID = 4945]
2. Ageing [Option ID = 4946]
3. Fermentation [Option ID = 4947]
4. Acidification [Option ID = 4948]

38) The HLB number of Glycerol mono stearate emulsifier is:[Question ID = 1238][Question Description = 138_20_DAI_AUG22_Q38]

1. 3.0 [Option ID = 4949]
2. 3.8 [Option ID = 4950]
3. 7.4 [Option ID = 4951]
4. 11.5 [Option ID = 4952]

39) Which of the following tests is used for knowing the efficiency of homogenization of milk?

[Question ID = 1239][Question Description = 139_20_DAI_AUG22_Q39]

1. Farrall index [Option ID = 4953]
2. Kessler index [Option ID = 4954]
3. Lactoperoxidase test [Option ID = 4955]
4. Lipase inactivation test [Option ID = 4956]

40) The 'foam theory of churning' has been put forth by following scientist(s):[Question ID = 1240][Question Description = 140_20_DAI_AUG22_Q40]

1. Rahn [Option ID = 4957]
2. King [Option ID = 4958]
3. Fisher and Hooker [Option ID = 4959]
4. Van Dam and Holwerda [Option ID = 4960]

41) The temperature of air in a 'Fluid-bed dryer' in spray drying plant is about:[Question ID = 1241][Question Description = 141_20_DAI_AUG22_Q41]

1. 60-65ºC [Option ID = 4961]
2. 100-120ºC [Option ID = 4962]
3. 170-175ºC [Option ID = 4963]
4. 195-200ºC [Option ID = 4964]

42) The 'Microfluidizer' is basically a:[Question ID = 1242][Question Description = 142_20_DAI_AUG22_Q42]

1. Mechanical de-emulsification technique [Option ID = 4965]
2. Traditional valve homogenizer [Option ID = 4966]
3. Mechanical emulsification technique [Option ID = 4967]
4. Physical stabilization builder [Option ID = 4968]

43) For checking the suitability of raw milk for the manufacture of which of the following products, the alcohol test is very useful?

[Question ID = 1243][Question Description = 143_20_DAI_AUG22_Q43]

1. HTST Pasteurized milk [Option ID = 4969]
2. UHT milk [Option ID = 4970]
3. Khoa [Option ID = 4971]
4. Chhana [Option ID = 4972]

44) 'Mottling' defect in Table butter may be caused due to:[Question ID = 1244][Question Description = 144_20_DAI_AUG22_Q44]

1. Use of microfine milled salt (NaCl) [Option ID = 4973]
2. Churning cream at higher temperature than normal [Option ID = 4974]
3. Use of coarse salt (NaCl) for salting [Option ID = 4975]
4. Churning cream at lower temperature than normal [Option ID = 4976]

45) In a two-stage homogenizer, the number of pressure gauges mounted in the machine is usually:[Question ID = 1245] [Question Description = 145_20_DAI_AUG22_Q45]

1. One [Option ID = 4977]

2. Two [Option ID = 4978]
3. Three [Option ID = 4979]
4. Four [Option ID = 4980]

46) A 'Milk clarifier' DOES NOT remove the following from raw milk:

[Question ID = 1246][Question Description = 146_20_DAI_AUG22_Q46]

1. Leucocyte [Option ID = 4981]
2. Bacteria [Option ID = 4982]
3. Dust and dirt [Option ID = 4983]
4. Fiber [Option ID = 4984]

47) Tertiary butyl hydroquinone is following type of food additive:[Question ID = 1247][Question Description = 147_20_DAI_AUG22_Q47]

1. Free-flow agent [Option ID = 4985]
2. Anti-oxidant [Option ID = 4986]
3. Sequestering agent [Option ID = 4987]
4. Anti-foaming agent [Option ID = 4988]

48) Which of the following methods of ice cream hardening will result in the least hardening time (in hours)?

[Question ID = 1248][Question Description = 148_20_DAI_AUG22_Q48]

1. Retail deep freeze cabinet [Option ID = 4989]
2. Forced draft hardening room [Option ID = 4990]
3. Domestic deep freeze cabinet [Option ID = 4991]
4. Contact Plate hardener [Option ID = 4992]

49) The overrun associated with 'Soft serve ice cream' is about:[Question ID = 1249][Question Description = 149_20_DAI_AUG22_Q49]

1. 25% [Option ID = 4993]
2. 50% [Option ID = 4994]
3. 80% [Option ID = 4995]
4. 95% [Option ID = 4996]

50) A hardened plain ice cream having 43.0% TS and whipped to 50% overrun would invariably have which of the following defects?

[Question ID = 1250][Question Description = 150_20_DAI_AUG22_Q50]

1. Fluffy texture [Option ID = 4997]
2. Foamy meltdown [Option ID = 4998]
3. Curdled appearance of melted ice cream [Option ID = 4999]
4. Heavy and soggy body [Option ID = 5000]

51) In an iron powder-based oxygen scavenger, one gram of iron can react with _____ oxygen at standard temperature and pressure.[Question ID = 1251][Question Description = 151_20_DAI_AUG22_Q51]

1. 0.0136 mol [Option ID = 5001]
2. 0.3030 mol [Option ID = 5002]
3. 1.0306 mol [Option ID = 5003]
4. 0.0007 mol [Option ID = 5004]

52) Which of the following is the most suitable packaging material for spreadable processed cheese?[Question ID = 1252] [Question Description = 152_20_DAI_AUG22_Q52]

1. Squeezable tubes of LDPE [Option ID = 5005]
2. Multilayered cups comprising PS-LDPE [Option ID = 5006]
3. Multilayered tubes made of PET-LDPE [Option ID = 5007]
4. Coextruded LDPE-HDPE squeezable tube with an EVOH middle layer [Option ID = 5008]

53) Which of the following is NOT a vacuum closure used in food packaging?

[Question ID = 1253][Question Description = 153_20_DAI_AUG22_Q53]

1. Lug-type or twist cap [Option ID = 5009]
2. Press-on twist-off cap [Option ID = 5010]
3. Crown cap [Option ID = 5011]
4. Pry-off cap [Option ID = 5012]

54) Read the following sentences related to glass packaging materials.
A. Breaking point of silicate glass is 70 MPa.

B. The purpose of including cullet in glass bottle manufacture is for decolorizing.

C. Annealing is the temperature at which stresses in the glass are relieved in a few minutes.

D. The three main colors of glass used to produce containers are flint or clear, amber or brown, and green.

E. Thermal stresses can be reduced by minimizing the temperature gradient from the hot to the cold side, decreasing the glass thickness, and avoiding sharp corners.

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

[Question ID = 1254][Question Description = 154_20_DAI_AUG22_Q54]

1. A and B only [Option ID = 5013]
2. C and D only [Option ID = 5014]
3. A, C, D and E only [Option ID = 5015]
4. B and E only [Option ID = 5016]

55) Read the following sentences related to metal packaging materials.
A. Copper, as an alloying element, increases the corrosion resistance of aluminum.

B. A contour on the can lid acts like a diaphragm expanding during thermal processing and returning to a concave profile when a vacuum develops inside the can on cooling.

C. Vinyl-organosol is the universal golden coating or enamel used for a three-piece can.

D. Tinplate is a high-carbon mild steel sheet varying in thickness from around 0.15-0.5 mm with a coating of tin between 2.8 and 17 gsm (gm^{-2}).

E. Collapsible aluminum tubes may be used for packaging cheese spreads and sauces.

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

[Question ID = 1255][Question Description = 155_20_DAI_AUG22_Q55]

1. A, C and D only [Option ID = 5017]
2. A and C only [Option ID = 5018]
3. D and E only [Option ID = 5019]
4. B and E only [Option ID = 5020]

56) Which of the following plastic films is most suitable for shrink packaging applications in the dairy and food industry?
[Question ID = 1256][Question Description = 156_20_DAI_AUG22_Q56]

1. Plasticized polyvinyl chloride [Option ID = 5021]
2. Biaxially oriented polypropylene [Option ID = 5022]
3. Foamed polystyrene [Option ID = 5023]
4. Metallized low density polyethylene [Option ID = 5024]

57) Which of the following post-paper manufacturing operations results in rendering the paper sheet more resistant to penetration of liquids, particularly water?[Question ID = 1257][Question Description = 157_20_DAI_AUG22_Q57]

1. Calendering [Option ID = 5025]
2. Supercalendering [Option ID = 5026]
3. Sizing [Option ID = 5027]
4. Pigmenting [Option ID = 5028]

58) Which of the following is a 3D packaging food service article that is manufactured from an aqueous slurry of cellulosic fibers and formed into discrete products on screened molds?

[Question ID = 1258][Question Description = 158_20_DAI_AUG22_Q58]

1. Folding box board [Option ID = 5029]
2. Corrugated fiber board [Option ID = 5030]
3. Molded pulp containers [Option ID = 5031]
4. Solid fiber drum [Option ID = 5032]

59) According to the Bureau of Indian Standards (IS: 1397, 1990), Kraft paper of Grade 2 quality is made from _____[Question ID = 1259][Question Description = 159_20_DAI_AUG22_Q59]

1. 100% waste or recycled paper [Option ID = 5033]
2. 100% unbleached sulfate pulp [Option ID = 5034]
3. A mixture of agricultural crop residues and sulfate pulp [Option ID = 5035]
4. A mixture of agricultural crop residues and waste paper [Option ID = 5036]

60) Which of the following microorganisms produce extracellular cellulose in a highly pure form that is usually

NOT combined with lignin that may be explored for packaging applications?

[Question ID = 1260][Question Description = 160_20_DAI_AUG22_Q60]

1. *Wautersia eutropha* [Option ID = 5037]
2. *Komagateibacter xylinus* [Option ID = 5038]
3. *Aspergillus niger* [Option ID = 5039]
4. *Bacillus flexus* [Option ID = 5040]

61) Evaluate the COP of a refrigeration system having work input of 120 kJ/kg and refrigeration effect generated is 300 kJ/kg[Question ID = 1261][Question Description = 161_20_DAI_AUG22_Q61]

1. 2.1 [Option ID = 5041]
2. 1.5 [Option ID = 5042]
3. 2.5 [Option ID = 5043]
4. 2.8 [Option ID = 5044]

62) In an air conditioned room, the velocity of air can be measured using which of the following instruments?

[Question ID = 1262][Question Description = 162_20_DAI_AUG22_Q62]

1. Hygrometer [Option ID = 5045]
2. Anemometer [Option ID = 5046]
3. Thermometer [Option ID = 5047]
4. Tachometer [Option ID = 5048]

63) Which of the following is a naturally available latent heat storage material for refrigeration?

[Question ID = 1263][Question Description = 163_20_DAI_AUG22_Q63]

1. Lithium bromide [Option ID = 5049]
2. Sodium chloride [Option ID = 5050]
3. Ice and snow [Option ID = 5051]
4. Calcium chloride [Option ID = 5052]

64) The expansion device used in domestic refrigerator working on vapour compression cycle is

[Question ID = 1264][Question Description = 164_20_DAI_AUG22_Q64]

1. Solenoid valve [Option ID = 5053]
2. Thermostatic valve [Option ID = 5054]
3. Hand operated valve [Option ID = 5055]
4. Capillary tube [Option ID = 5056]

65) Read the following statements.

A. Lower relative humidity results in a greater difference between the dry-bulb and wet-bulb temperatures.

B. Increase in sensible heat increases the relative humidity

C. Adiabatic dehumidification leads to increase in dry bulb temperature

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

[Question ID = 1265][Question Description = 165_20_DAI_AUG22_Q65]

1. A and B only [Option ID = 5057]
2. A, B and C [Option ID = 5058]
3. B and C only [Option ID = 5059]
4. A and C only [Option ID = 5060]

66) In Seven-effect evaporator with a thermo-compressor, which of the following is possible to evaporate?

[Question ID = 1266][Question Description = 166_20_DAI_AUG22_Q66]

1. 2 kg water with 1 kg steam [Option ID = 5061]
2. 12 kg water with 1 kg steam [Option ID = 5062]
3. 8 kg water with 1 kg steam [Option ID = 5063]
4. 9 kg water with 1 kg steam [Option ID = 5064]

67) How much water should be evaporated from 1 kg milk of 9% concentration in order to form a 36% solution?[Question ID = 1267][Question Description = 167_20_DAI_AUG22_Q67]

1. 0.325 kg [Option ID = 5065]
2. 0.250 kg [Option ID = 5066]
3. 0.750 kg [Option ID = 5067]
4. 0.625 kg [Option ID = 5068]

68) Calculate the pump head if suction pressure is 4 bar and discharge pressure is 6 bar. Consider density of water as 997 kg/m^3[Question ID = 1268][Question Description = 168_20_DAI_AUG22_Q68]

1. 30.70 m [Option ID = 5069]
2. 20.45 m [Option ID = 5070]
3. 25.25 m [Option ID = 5071]
4. 31.67 m [Option ID = 5072]

69) At what velocity does water flow convert from laminar to transitional in a 25 mm diameter pipe at 25°C? The density of water is 997 kg/m^3 and viscosity is 1 x 10^{-3} kg/m.s[Question ID = 1269][Question Description = 169_20_DAI_AUG22_Q69]

1. 0.063 m/s [Option ID = 5073]
2. 0.084 m/s [Option ID = 5074]
3. 0.84 m/s [Option ID = 5075]
4. 0.042 m/s [Option ID = 5076]

70) What is the minimum duration required for curing of cement concrete for attaining good strength?

[Question ID = 1270][Question Description = 170_20_DAI_AUG22_Q70]

1. 5 days [Option ID = 5077]
2. 10 days [Option ID = 5078]
3. 7 days [Option ID = 5079]
4. 14 days [Option ID = 5080]

71) A metal wire having length of 2.0 m is elongated by 2 mm under a load. The initial diameter of the wire is 2 mm. Find the change in diameter of wire after elongation if poisons ratio is 0.2.

[Question ID = 1271][Question Description = 171_20_DAI_AUG22_Q71]

1. 4 x 10^5 m [Option ID = 5081]
2. 8 x 10^3 m [Option ID = 5082]
3. 3.2 x 10^4 m [Option ID = 5083]
4. 4 x 10^7 m [Option ID = 5084]

72) Two shafts are said to have equal strength, if:

[Question ID = 1272][Question Description = 172_20_DAI_AUG22_Q72]

1. diameter of both the shafts is equal [Option ID = 5085]
2. twisting moment of both the shafts is equal [Option ID = 5086]
3. angle of twist of both the shafts is equal [Option ID = 5087]
4. Material is same for both shafts [Option ID = 5088]

73) The Poisson's ratio (μ) is of order[Question ID = 1273][Question Description = 173_20_DAI_AUG22_Q73]

1. 1 <>< 0> [Option ID = 5089]
2. 0 < μ="">< - ½ -=""> [Option ID = 5090]
3. ∞<>< -∞> [Option ID = 5091]
4. 1 < μ="">< -1> [Option ID = 5092]

74) When a helical compression spring is cut into two halves, the stiffness of each of the resulting springs will be

[Question ID = 1274][Question Description = 174_20_DAI_AUG22_Q74]

1. unchanged [Option ID = 5093]
2. one-third [Option ID = 5094]
3. one-half [Option ID = 5095]
4. double [Option ID = 5096]

75) Kinematic viscosity can be defined as[Question ID = 1275][Question Description = 175_20_DAI_AUG22_Q75]

1. Ratio of dynamic viscosity to density [Option ID = 5097]
2. Ratio of pressure to density [Option ID = 5098]
3. Product of dynamic viscosity and density [Option ID = 5099]
4. Product of pressure and density [Option ID = 5100]

76) The atmospheric pressure head of water column is _____.

[Question ID = 1276][Question Description = 176_20_DAI_AUG22_Q76]

1. 760 mm [Option ID = 5101]
2. 9.81 m [Option ID = 5102]
3. 8.5 m [Option ID = 5103]
4. 10.30 m [Option ID = 5104]

77) The ratio of inertia force to viscous force, is known as

[Question ID = 1277][Question Description = 177_20_DAI_AUG22_Q77]

1. Euler number [Option ID = 5105]
2. Froude number [Option ID = 5106]
3. Reynolds number [Option ID = 5107]
4. Rayleigh number [Option ID = 5108]

78) The discharge through a single acting reciprocating pump is[Question ID = 1278][Question Description = 178_20_DAI_AUG22_Q78]

1. $Q = \frac{ALN}{60}$

   [Option ID = 5109]
2. $Q = \frac{LN}{60A}$

   [Option ID = 5110]
3. $Q = 2ALN$

   [Option ID = 5111]
4. $Q = \frac{ALN}{3600}$

   [Option ID = 5112]

79) Rotameter is used for measuring[Question ID = 1279][Question Description = 179_20_DAI_AUG22_Q79]

1. Viscosity of fluids [Option ID = 5113]
2. Velocity of fluids in pipes [Option ID = 5114]
3. Discharge of fluids [Option ID = 5115]
4. Density of fluids [Option ID = 5116]

80) The temperature dependence of the diffusivity can generally be described by[Question ID = 1280][Question Description = 180_20_DAI_AUG22_Q80]

1. Arrhenius equation [Option ID = 5117]
2. Fick's law [Option ID = 5118]
3. Sorption kinetics [Option ID = 5119]
4. Permeation method [Option ID = 5120]

81) A 3 metre diameter cyclone handles an air flow rate of 35000 kg/hr. The average air temperature over the cyclone is 80°C. The barometer stands at 758 mm Hg. Calculate the pressure drop.

[Question ID = 1281][Question Description = 181_20_DAI_AUG22_Q81]

1. 240 mm Hg [Option ID = 5121]
2. 240 mm WG [Option ID = 5122]
3. 120 mm WG [Option ID = 5123]
4. 100 mm Hg [Option ID = 5124]

82) A 100 mm plate type disc is atomizing 5 kg/min of skim milk at 15,000 rpm. What is the disc peripheral velocity?

[Question ID = 1282][Question Description = 182_20_DAI_AUG22_Q82]

1. 87.5 m/s [Option ID = 5125]
2. 54.4 m/s [Option ID = 5126]
3. 45.4 m/s [Option ID = 5127]
4. 78.5 m/s [Option ID = 5128]

83) The minimum working space required around equipment in a dairy plant is[Question ID = 1283][Question Description = 183_20_DAI_AUG22_Q83]

1. 2 feet [Option ID = 5129]
2. 6 feet [Option ID = 5130]
3. 3 feet [Option ID = 5131]
4. 5 feet [Option ID = 5132]

84) The following layout is NOT commonly practiced for dairy plant layouting

[Question ID = 1284][Question Description = 184_20_DAI_AUG22_Q84]

1. Straight line type layout [Option ID = 5133]
2. 'Z' type layout [Option ID = 5134]
3. 'U' type layout [Option ID = 5135]
4. 'T' type layout [Option ID = 5136]

85) Helical and ribbon type of agitators are used for mixing the material having viscosity in the range of

[Question ID = 1285][Question Description = 185_20_DAI_AUG22_Q85]

1. 500-1000 Pa.s

   [Option ID = 5137]
2. <100 pa.s

   [Option ID = 5138]
3. 50 – 100 Pa.s

   [Option ID = 5139]
4. <3 pa.s

   [Option ID = 5140]

86) To place more records on data base file in dbaseIII+, the command used is

[Question ID = 1286][Question Description = 186_20_DAI_AUG22_Q86]

1. EDIT [Option ID = 5141]
2. LIST [Option ID = 5142]
3. APPEND [Option ID = 5143]
4. ADD [Option ID = 5144]

87) In Lotus 1-2-3 the spread sheet has[Question ID = 1287][Question Description = 187_20_DAI_AUG22_Q87]

1. 256 cell columns and 2,048 rows [Option ID = 5145]
2. 16,384 columns and 1,048,576 rows [Option ID = 5146]
3. 256 columns and 65,536 rows [Option ID = 5147]
4. 256 columns and 256 rows [Option ID = 5148]

88) The falling-film evaporator allows a greater number of effects than the rising-film evaporator because
Statement I: Rising-film evaporators require large temperature differential across the heating surface

Statement II: The falling-film evaporator can handle more viscous liquids than the rising-film type

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

[Question ID = 1288][Question Description = 188_20_DAI_AUG22_Q88]

1. Statement I is true [Option ID = 5149]
2. Statement II is true [Option ID = 5150]
3. Both Statement I and Statement are true [Option ID = 5151]
4. Both Statement I and Statement II are flase [Option ID = 5152]

89) _____ is useful to determine whether a product will gain or lose moisture under a given set of temperature and relative humidity conditions[Question ID = 1289][Question Description = 189_20_DAI_AUG22_Q89]

1. Critical moisture content [Option ID = 5153]
2. Equilibrium moisture content [Option ID = 5154]
3. Bound moisture content [Option ID = 5155]
4. Free moisture content [Option ID = 5156]

90) How much weight reduction would result when a material is dried from 80% moisture to 50% moisture?[Question ID = 1290][Question Description = 190_20_DAI_AUG22_Q90]

1. 45% [Option ID = 5157]
2. 55% [Option ID = 5158]
3. 40% [Option ID = 5159]
4. 60% [Option ID = 5160]

91) Milk cans are generally fabricated from[Question ID = 1291][Question Description = 191_20_DAI_AUG22_Q91]

1. Copper [Option ID = 5161]
2. Brass [Option ID = 5162]
3. Aluminium [Option ID = 5163]
4. Bronze [Option ID = 5164]

92) The difference in fat content between the top and bottom layers, expressed as a percentage of the top layer, is referred to as:[Question ID = 1292][Question Description = 192_20_DAI_AUG22_Q92]

1. Homogenisation accuracy [Option ID = 5165]
2. Homogenisation index [Option ID = 5166]
3. Homogenisation factor [Option ID = 5167]
4. Homogenisation stability [Option ID = 5168]

93) Which of the following is NOT a mechanism of homogenization?

[Question ID = 1293][Question Description = 193_20_DAI_AUG22_Q93]

1. Shearing action [Option ID = 5169]
2. Deactivation [Option ID = 5170]
3. Impact [Option ID = 5171]
4. Cavitation [Option ID = 5172]

94) LTLT pasteurization can be easily carried out in a:[Question ID = 1294][Question Description = 194_20_DAI_AUG22_Q94]

1. Multi-purpose vat [Option ID = 5173]
2. Single effect evaporator [Option ID = 5174]
3. Scraped surface heat exchanger [Option ID = 5175]
4. Steam injection UHT equipment [Option ID = 5176]

95) Which of the following functions of food packaging is referred to as "Silent Salesman"?

[Question ID = 1295][Question Description = 195_20_DAI_AUG22_Q95]

1. Protection [Option ID = 5177]
2. Containment [Option ID = 5178]
3. Convenience [Option ID = 5179]
4. Communication [Option ID = 5180]

96) Suppose, P1 is the milk pressure before the first stage and P2 is the milk pressure before the second stage. Best homogenization will be achieved when:[Question ID = 1296][Question Description = 196_20_DAI_AUG22_Q96]

1. P2 / P1 = 0.2 [Option ID = 5181]
2. P2 / P1 = 0.6 [Option ID = 5182]
3. P2 / P1 = 1.0 [Option ID = 5183]
4. P2 / P1 = 1.4 [Option ID = 5184]

97) Type of pump used to generate high pressure in a homogenizer[Question ID = 1297][Question Description = 197_20_DAI_AUG22_Q97]

1. Centrifugal type pump [Option ID = 5185]
2. Screw type pump [Option ID = 5186]
3. Plunger type pump [Option ID = 5187]
4. Diaphragm type pump [Option ID = 5188]

98) Pressure gauge fluctions in homogenizer may be caused by following reasons:
I. Badly worn pump valves and valve seats

II. Insufficient feed supply

III. Leaking plunger packing

IV. Low fat content in milk

[Question ID = 1298][Question Description = 198_20_DAI_AUG22_Q98]

1. Only I and II are true [Option ID = 5189]
2. Only I and III are true [Option ID = 5190]
3. Only II and III are true [Option ID = 5191]
4. Only I, II and III are true [Option ID = 5192]

99) In case if pasteurization temperature is not attained, FDV diverts the flow of milk to which of the following section?

[Question ID = 1299][Question Description = 199_20_DAI_AUG22_Q99]

1. Regeneration section [Option ID = 5193]
2. Balance tank [Option ID = 5194]
3. Raw milk silo [Option ID = 5195]
4. Heating section [Option ID = 5196]

100) Plates of a pasteurizer are fabricated from:

[Question ID = 1300][Question Description = 200_20_DAI_AUG22_Q100]

1. AISI 302 [Option ID = 5197]
2. AISI 304 [Option ID = 5198]
3. AISI 310 [Option ID = 5199]
4. AISI 316 [Option ID = 5200]

101) Which of the following is the principal MUFA present in butter?

[Question ID = 1301][Question Description = 201_20_DAI_AUG22_Q101]

1. Marvalic acid [Option ID = 5201]
2. Elaidic acid [Option ID = 5202]
3. Vaccenic acid [Option ID = 5203]
4. Oleic acid [Option ID = 5204]

102) Which type of flow is required in holding tube for uniform heat treatment?[Question ID = 1302][Question Description = 202_20_DAI_AUG22_Q102]

1. Laminar [Option ID = 5205]
2. Streamline [Option ID = 5206]
3. Turbulent [Option ID = 5207]
4. Hyper laminar [Option ID = 5208]

103) Which type of milk transfer pump is used in a HTST pasteurizer?

[Question ID = 1303][Question Description = 203_20_DAI_AUG22_Q103]

1. Screw pump

   [Option ID = 5209]
2. Piston pump

   [Option ID = 5210]
3. Peristaltic pump

   [Option ID = 5211]
4. Centrifugal pump

   [Option ID = 5212]

104) The major advantage of regeneration section is:[Question ID = 1304][Question Description = 204_20_DAI_AUG22_Q104]

1. reduced thermal conductivity [Option ID = 5213]
2. reduced energy consumption [Option ID = 5214]
3. reduced specific heat [Option ID = 5215]
4. reduced flow velocity [Option ID = 5216]

105) Which of the following is the medium for heating raw milk in the regeneration section?

[Question ID = 1305][Question Description = 205_20_DAI_AUG22_Q105]

1. Hot water [Option ID = 5217]
2. Saturated steam [Option ID = 5218]
3. Hot milk [Option ID = 5219]
4. Super saturated steam [Option ID = 5220]

106) Conductive thermal resistance (R) offered by a wall of thickness "L", area "A" and thermal conductivity "K" is given by which of following equations?

[Question ID = 1306][Question Description = 206_20_DAI_AUG22_Q106]

1. R = LAk [Option ID = 5221]
2. R = L/ kA [Option ID = 5222]
3. R = k / LA [Option ID = 5223]
4. R = A / Lk [Option ID = 5224]

107) Which of the following equation is known as Newton's law of cooling?

[Question ID = 1307][Question Description = 207_20_DAI_AUG22_Q107]

1. Q = hA (Tw – To) [Option ID = 5225]
2. Q = [kA (Tw-To)] / L [Option ID = 5226]
3. Q = mc_p(Tw – To) [Option ID = 5227]
4. Q = UA (Tw – To) [Option ID = 5228]

108) _____state's that the grinding energy for a given mass of material is proportional to the logarithm of reduction ratio.[Question ID = 1308][Question Description = 208_20_DAI_AUG22_Q108]

1. Kick's law [Option ID = 5229]
2. Bond's law [Option ID = 5230]
3. Rault's law [Option ID = 5231]
4. Rittinger's law [Option ID = 5232]

109) _____ is equal to the product of the force and the perpendicular distance of the point, about which the moment is required and the line of action of the force.[Question ID = 1309][Question Description = 209_20_DAI_AUG22_Q109]

1. Moment of inertia [Option ID = 5233]
2. Moment of mass [Option ID = 5234]
3. Moment of force [Option ID = 5235]
4. Moment of centre of gravity [Option ID = 5236]

110) Which of the following types of energy is possessed by a compressed spring?

[Question ID = 1310][Question Description = 210_20_DAI_AUG22_Q110]

1. Kinetic energy [Option ID = 5237]
2. Kinematic energy [Option ID = 5238]
3. Retaliation energy [Option ID = 5239]
4. Strain energy [Option ID = 5240]

111) As per FSSAI Standard, what is the maximum permissible limit of nisin used in paneer?

[Question ID = 1311][Question Description = 211_20_DAI_AUG22_Q111]

1. 12.5 ppm [Option ID = 5241]
2. 25 ppm [Option ID = 5242]
3. 100 ppm [Option ID = 5243]
4. 50 ppm [Option ID = 5244]

112) Which of the following gases is widely used in gas welding process?

[Question ID = 1312][Question Description = 212_20_DAI_AUG22_Q112]

1. Carbon monooxide [Option ID = 5245]
2. Acetylene [Option ID = 5246]
3. Ammonia [Option ID = 5247]
4. CFC [Option ID = 5248]

113) Which of the following instruments is used to determine the rennetability of the curd?

[Question ID = 1313][Question Description = 213_20_DAI_AUG22_Q113]

1. Torsiometer [Option ID = 5249]
2. Sectilometer [Option ID = 5250]
3. Ball Compressor [Option ID = 5251]
4. Buttomat [Option ID = 5252]

114) According to the FSSAI standards, what is the maximum permissible limit of aspartame in Burfi?

[Question ID = 1314][Question Description = 214_20_DAI_AUG22_Q114]

1. 100 ppm [Option ID = 5253]
2. 200 ppm [Option ID = 5254]
3. 300 ppm [Option ID = 5255]
4. 500 ppm [Option ID = 5256]

115) In a piezo electric device, when pressure is applied _____ is generated.

[Question ID = 1315][Question Description = 215_20_DAI_AUG22_Q115]

1. Current [Option ID = 5257]
2. Voltage [Option ID = 5258]
3. Change in resistance [Option ID = 5259]
4. pH [Option ID = 5260]

116) Modulus of elasticity is also known as[Question ID = 1316][Question Description = 216_20_DAI_AUG22_Q116]

1. Bulk’s modulus [Option ID = 5261]
2. Brik’s modulus [Option ID = 5262]
3. Young’s modulus [Option ID = 5263]
4. Tian’s modulus [Option ID = 5264]

117) Stefan Boltzmann Law is related to:[Question ID = 1317][Question Description = 217_20_DAI_AUG22_Q117]

1. Conductive heat transfer [Option ID = 5265]
2. Boiling heat transfer [Option ID = 5266]
3. Conductive heat transfer [Option ID = 5267]
4. Radiative heat transfer [Option ID = 5268]

118) Which of the following is used to increase heat transfer from the surface?

[Question ID = 1318][Question Description = 218_20_DAI_AUG22_Q118]

1. Fins [Option ID = 5269]
2. Thermistors [Option ID = 5270]
3. Alternators [Option ID = 5271]
4. Emitters [Option ID = 5272]

119) When a section is subjected to two equal and opposite pull, the body is subjected to:[Question ID = 1319][Question Description = 219_20_DAI_AUG22_Q119]

1. Compressive stress [Option ID = 5273]
2. Impact stress [Option ID = 5274]
3. Tensile stress [Option ID = 5275]
4. Torsional stress [Option ID = 5276]

120) The opposition that the magnetic circuit offers to magnetic flux is called_____.[Question ID = 1320][Question Description = 220_20_DAI_AUG22_Q120]

1. Permeance [Option ID = 5277]
2. Conductance [Option ID = 5278]
3. Reluctance [Option ID = 5279]
4. Transmittance [Option ID = 5280]