

National Testing Agency

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DAIRY TECHNOLOGY PG

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DAIRY TECHNOLOGY PG -1

Section Id :	190889135
Section Number :	1
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Number of Questions :	120
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Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	190889175
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 1908896622 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The purpose of the heat treatment of milk is exclusively to destroy pathogenic bacteria to make the milk safe for human consumption.

- (A) Milk is pasteurized at 72°C for 15 seconds to destroy the pathogenic organisms.
- (B) The most resistant pathogenic bacteria is *coxiella burnetii*
- (C) The temperature -time combination for destruction of pathogenic bacteria is based on *Bacillus subtilis*
- (D) The temperature - time combination of 63°C for 30 minutes can also be employed for pasteurization of milk

Choose the correct statements about heat treatment of milk from the options given below :

- (1) (A), (B) (C) only
- (2) (B), (C), (D) only
- (3) (A), (C), (D) only
- (4) (A), (B) (D) only

Options :

19088926381. 1

19088926382. 2

19088926383. 3

19088926384. 4

Question Number : 2 Question Id : 1908896623 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The merits of the fermented milks are due to

- (A) The nutritive value is generally higher as compared to the milk.
- (B) The fermented milks contains coagulating enzymes.
- (C) It is more easily assimilated by the human system.
- (D) It may possess more therapeutic properties.

Choose the most appropriate answer from the options given below :

- (1) (A), (B) (C) only
- (2) (A), (B) (D) only
- (3) (A), (C) (D) only
- (4) (B), (C), (D) only

Options :

19088926385. 1

19088926386. 2

19088926387. 3

19088926388. 4

Question Number : 3 Question Id : 1908896624 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

For liquid milk and milk products with more than 6.0% fat, two-stage homogenization is needed with the pressures :

- (1) 2000 psi at the 1st stage and 500 psi at the second stage
- (2) 1000 psi at the 1st stage and 500 psi at the second stage
- (3) 3000 psi at the 1st stage and 1000 psi at the second stage
- (4) 2000 psi at the 1st stage and 1000 psi at the second stage

Options :

19088926389. 1

19088926390. 2

19088926391. 3

19088926392. 4

Question Number : 4 Question Id : 1908896625 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Bacteriophages are considered as one of the single most important cause of slow starter action or starter failure. Measures employed to minimize the risk of phage attack include.

- (A) Incorporation of electrolytes in the growth media.
- (B) The use of mixed and phage - unrelated cultures.
- (C) Strict adherence to aseptic techniques.
- (D) Proper selection of the starter growth media and proper heat treatment of media.

Choose the most appropriate answer from the options given below :

- (1) (A), (B), (C) only
- (2) (A), (C) (D) only
- (3) (A), (B) (D) only
- (4) (B), (C), (D) only

Options :

19088926393. 1

19088926394. 2

19088926395. 3

19088926396. 4

Question Number : 5 Question Id : 1908896626 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The common test that is generally carried out for the confirmation of the sterilization :

- (1) COB Test
- (2) Phosphatase Test
- (3) Hot Iron Test
- (4) Turbidity Test

Options :

19088926397. 1

19088926398. 2

19088926399. 3

19088926400. 4

Question Number : 6 Question Id : 1908896627 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

For the manufacture of yoghurt, the two bacteria used as starter culture are

- (1) *Lactobacillus delbruekii* subsp. *bulgaricus* and *Streptococcus thermophilus*
- (2) *Lactobacillus acidophilus* and *Lactobacillus helveticus*
- (3) *Lactobacillus casei* and *Lactococcus lactis*
- (4) *Lactococcus lactis* and *Streptococcus thermophilus*

Options :

19088926401. 1

19088926402. 2

19088926403. 3

19088926404. 4

Question Number : 7 Question Id : 1908896628 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In the manufacture of Mozzarella cheese, the curd is stretched at pH

- | | |
|---------------|---------------|
| (1) 5.6 – 5.8 | (2) 5.9 – 6.2 |
| (3) 4.6 – 4.8 | (4) 5.2 – 5.4 |

Options :

19088926405. 1

19088926406. 2

19088926407. 3

19088926408. 4

Question Number : 8 Question Id : 1908896629 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In UHT method of sterilization, the milk is heated to _____ °C for few seconds.

- | | |
|-----------------|------------------|
| (1) 95 – 100°C | (2) 100 – 105°C |
| (3) 110 – 120°C | (4) 135 – 150° C |

Options :

19088926409. 1

19088926410. 2

19088926411. 3

19088926412. 4

Question Number : 9 Question Id : 1908896630 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

As per FSSAI, the moisture content of Edam cheese should not be more than _____

- | | |
|---------|---------|
| (1) 46% | (2) 40% |
| (3) 48% | (4) 35% |

Options :

19088926413. 1

19088926414. 2

19088926415. 3

19088926416. 4

Question Number : 10 Question Id : 1908896631 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Refractive Index (RI) is directly related to the soluble constituents in a medium and milk has a RI of about _____.

- (1) 2.05 (2) 1.75
(3) 1.35 (4) 1.10

Options :

19088926417. 1

19088926418. 2

19088926419. 3

19088926420. 4

Question Number : 11 Question Id : 1908896632 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Traditional Feta cheese is mainly produced from _____.

- (1) Cow milk (2) Goat Milk
(3) Sheep milk (4) Buffalo milk

Options :

19088926421. 1

19088926422. 2

19088926423. 3

19088926424. 4

Question Number : 12 Question Id : 1908896633 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

As per FSSAI, toned milk should contain a minimum of _____.

- (1) 4.5% fat and 9.0% SNF (2) 3.0% fat and 8.5% SNF
(3) 1.5% fat and 9.0% SNF (4) 6.0% fat and 9.0% SNF

Options :

19088926425. 1

19088926426. 2

19088926427. 3

19088926428. 4

Question Number : 13 Question Id : 1908896634 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Buffalo milk is not suitable for the manufacture of Cheddar cheese - due to

- (A) Poor retention of water in the curd.
- (B) Mineral load is quite high
- (C) Bio-chemical changes is slower during ripening
- (D) Faster acidity development during manufacture and ripening

Choose the most appropriate answer from the options given below :

- (1) (A), (B), (C) only
- (2) (A), (B), (D) only
- (3) (B), (C), (D) only
- (4) (D), (A), (C) only

Options :

19088926429. 1

19088926430. 2

19088926431. 3

19088926432. 4

Question Number : 14 Question Id : 1908896635 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following is the correct expression for Ripening Index of cheese?

(1) $\text{Ripening Index} = \frac{\% \text{ soluble protein}}{\% \text{ total protein}} \times 100$

(2) $\text{Ripening Index} = \frac{\% \text{ whey protein}}{\% \text{ total protein}} \times 100$

(3) $\text{Ripening Index} = \frac{\% \text{ casin}}{\% \text{ total protein}} \times 100$

(4) $\text{Ripening Index} = \frac{\% \text{ Alpha lactalbumin}}{\% \text{ total protein}} \times 100$

Options :

19088926433. 1

19088926434. 2

19088926435. 3

19088926436. 4

Question Number : 15 Question Id : 1908896636 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Fermented milks refers to those milks, which have been manufactured by employing the selected micro organisms to develop typical characteristic flavour and body and texture. For example.

- (A) Acidophilus milk.
- (B) Kefir
- (C) Paneer
- (D) Dahi

Choose the most appropriate answer from the options given below :

- (1) (A), (B), (C) only
- (2) (A), (B) (D) only
- (3) (B), (C) (D) only
- (4) (A), (C), (D) only

Options :

19088926437. 1

19088926438. 2

19088926439. 3

19088926440. 4

Question Number : 16 Question Id : 1908896637 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In the production of food from its raw state through processing and shipping to consumption by the consumer at which the potential hazard can be controlled or eliminated by:

- (A) Cooking
- (B) Cooking /freezing
- (C) Packaging
- (D) Fermentation

Choose the most appropriate answer from the options given below :

- (1) (A), (C), (D) only
- (2) (A), (B) (D) only
- (3) (A), (B) (C) only
- (4) (B), (C), (D) only

Options :

19088926441. 1

19088926442. 2

19088926443. 3

19088926444. 4

Question Number : 17 Question Id : 1908896638 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The syneresis of the cheese curd refers to the expulsion of whey and contraction of the curd which depend on :

- (A) Cutting
- (B) Temperature
- (C) Agitation
- (D) Draining

Choose the most appropriate answer from the options given below :

- (1) (A), (B), (D) only
- (2) (A), (B), (C) only
- (3) (B), (C), (D) only
- (4) (A), (C), (D) only

Options :

19088926445. 1

19088926446. 2

19088926447. 3

19088926448. 4

Question Number : 18 Question Id : 1908896639 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Environment management system – ISO 14000 encompasses the following:

- (A) Structured, Systematic, documented and voluntary approach
- (B) Proactive identification and control of environmental aspects
- (C) Continual improvement in environmental performance
- (D) Ensures supply of good quality food products and services

Choose the most appropriate answer from the options given below :

- (1) (A), (B), (C) only
- (2) (A), (B), (D) only
- (3) (A), (C), (D) only
- (4) (B), (C), (D) only

Options :

19088926449. 1

19088926450. 2

19088926451. 3

19088926452. 4

Question Number : 19 Question Id : 1908896640 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The blue-veined cheeses are characterized by the development of an internal blue green mould _____.

- (1) *P. camemberti*
- (2) *P. roqueforti*
- (3) *G. candidum*
- (4) *P. commune*

Options :

19088926453. 1

19088926454. 2

19088926455. 3

19088926456. 4

Question Number : 20 Question Id : 1908896641 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following is not an approach to accelerated ripening of cheese?

- (1) Supplementation of starter culture with starter adjunct
- (2) Use of exogenous enzymes such as protease and lipase
- (3) Application of lactose hydrolysed milk
- (4) Use of coagulating enzymes

Options :

19088926457. 1

19088926458. 2

19088926459. 3

19088926460. 4

Question Number : 21 Question Id : 1908896642 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The concentration at which a specific taste can first be identified is known as

- | | |
|---------------------------|---------------------------|
| (1) Recognition threshold | (2) Absolute threshold |
| (3) Detection threshold | (4) Sensitivity threshold |

Options :

19088926461. 1

19088926462. 2

19088926463. 3

19088926464. 4

Question Number : 22 Question Id : 1908896643 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Triangle sensory evaluation test is a type of

- | | |
|----------------------|----------------------|
| (1) Sensitivity test | (2) Descriptive test |
| (3) Difference test | (4) Rating test |

Options :

19088926465. 1

19088926466. 2

19088926467. 3

19088926468. 4

Question Number : 23 Question Id : 1908896644 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statement is true about bitter flavour defect in *dahi* or yoghurt?

- (A) Use of poor quality/old milk contaminated with psychrotrophic bacteria
- (B) Starter culture with proteolytic activity.
- (C) Too high storage temperature of the finished product.
- (D) Disruption of coagulum before setting

Choose the most appropriate answer from the options given below :

- (1) (B), (C) and (D)
- (2) (A), (B), (C) and (D)
- (3) (A), (B) and (C)
- (4) (B) and (D)

Options :

19088926469. 1

19088926470. 2

19088926471. 3

19088926472. 4

Question Number : 24 Question Id : 1908896645 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In order for compounds to be perceived by human olfactory system, the upper limit of molecular weight should be in the range of

- (1) 500 – 600 Da (2) 400 – 450 Da
(3) 300 Da or less (4) 700 – 800 Da

Options :

19088926473. 1
19088926474. 2
19088926475. 3
19088926476. 4

Question Number : 25 Question Id : 1908896646 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The gradual loss of sensory perception due to constant exposure to a stimuli is known as

- (1) Proprioception (2) Olfaction
(3) Adoption (4) Adaptation

Options :

19088926477. 1
19088926478. 2
19088926479. 3
19088926480. 4

Question Number : 26 Question Id : 1908896647 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The optimum temperature for detection of aroma, taste and residue in ghee is

- (1) 50°C (2) 60°C
(3) 40°C (4) 25°C

Options :

19088926481. 1

19088926482. 2

19088926483. 3

19088926484. 4

Question Number : 27 Question Id : 1908896648 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements are correct about *khoa*?

- (A) Best quality milk cake is prepared from *Danedar*, variety of *Khoa*
- (B) *Gulabjamun* is prepared from *danedar* type *khoa*
- (C) *Pindi* variety *khoa* sells at a higher price followed by *Dhap* and *Danedar* varieties
- (D) *Burfi* is prepared from *dhap* variety of *khoa*
- (E) *Dhap* variety contains higher moisture as compared to the other two varieties of *khoa*

Choose the correct answer from the options given below :

- (1) (A), (C) and (E) only
- (2) (B), (C) and (D) only
- (3) (C), (D) and (E) only
- (4) (A), (D) and (E) only

Options :

19088926485. 1

19088926486. 2

19088926487. 3

19088926488. 4

Question Number : 28 Question Id : 1908896649 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

With respect to *khoa* which of the following statement(s) is / are true?

- (A) Cow milk *khoa* has salty taste
- (B) Homogenization of milk leads to higher fat leakage in *khoa*
- (C) *Danedar* variety has got firm and smooth texture
- (D) Dehydration should be stopped when the pan content starts leaking the pan surface during *khoa* production
- (E) *Dhap* variety of *khoa* has minimum moisture content

Choose the correct answer from the options given below :

- (1) (A), (B) and (E) only
- (2) (A) and (D) only
- (3) (A) and (C) only
- (4) (C), (D) and (E) only

Options :

19088926489. 1

19088926490. 2

19088926491. 3

19088926492. 4

Question Number : 29 Question Id : 1908896650 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I

- (A) 21-23% yield
- (B) 16-18% yield
- (C) 50% yield
- (D) 42-44% yield

List II

- (I) Cow milk chhana
- (II) Kheer
- (III) Buffalo milk khoa
- (IV) Rasogolla from cow milk.

Choose the correct answer from the options given below :

- (1) (A)-(I), (B)-(III), (C)-(IV), (D)-(II)
- (2) (A)-(IV), (B)-(I), (C)-(III), (D)-(II)
- (3) (A)-(III), (B)-(I), (C)-(II), (D)-(IV)
- (4) (A)-(II), (B)-(III), (C)-(IV), (D)-(I)

Options :

19088926493. 1

19088926494. 2

19088926495. 3

19088926496. 4

Question Number : 30 Question Id : 1908896651 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements: One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A): During *dahi* preparation milk is heated to temperature of 70-72°C for 2-5 minutes

Reasons (R): Heating *milk* to higher temperature - time regime kills contaminating and competitive microorganisms produces growth factors by breakdown of milk/ proteins and creates desirable body and texture in *dahi*.

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true and (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

19088926497. 1

19088926498. 2

19088926499. 3

19088926500. 4

Question Number : 31 Question Id : 1908896652 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements: One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : One of the characteristics attribute of Kalakand is its granular texture.

Reasons (R) : The sodium citrate at 0.02-0.5% levels is commonly used to induce good granule formation during Kalakand preparation.

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true and (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

19088926501. 1

19088926502. 2

19088926503. 3

19088926504. 4

Question Number : 32 Question Id : 1908896653 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following do/does not occur(s) during khoa storage?

- (A) Hydrolytic rancidity
- (B) Softening of body and texture
- (C) Increase in acidity
- (D) Decrease in colour intensity
- (E) Breakdown in milk proteins.

Choose the correct answer from the options given below :

- (1) (A) and (B) only
- (2) (B) and (C) only
- (3) (D) and (E) only
- (4) (B) and (D) only

Options :

19088926505. 1

19088926506. 2

19088926507. 3

19088926508. 4

Question Number : 33 Question Id : 1908896654 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Single effect evaporator is normally operated for milk evaporation at

- (1) 65-67° C / 75 cm Hg vacuum
- (2) 54-60°C / 63.5 cm Hg vacuum
- (3) 70-75°C / 80 cm Hg vacuum
- (4) 61-64°C / 70 cm Hg vacuum

Options :

19088926509. 1

19088926510. 2

19088926511. 3

19088926512. 4

Question Number : 34 Question Id : 1908896655 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is not correct with respect to preparation of evaporated milk from buffalo milk?

- (A) More undesirable gel formation during storage.
- (B) Greater possibility of cooked flavour development during storage
- (C) Lesser possibility of sandiness due to high fat content
- (D) Age thickening possibility will be higher
- (E) Lesser incidence of browning discolouration

Choose the correct answer from the options given below :

- (1) (A) and (D)
- (2) (B) and (C)
- (3) (C) and (D)
- (4) (C) and (E) only

Options :

19088926513. 1

19088926514. 2

19088926515. 3

19088926516. 4

Question Number : 35 Question Id : 1908896656 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements.

Statement I: The second stage of homogenization supplies a controlled back pressure to the first stage of homogenization, giving best possible condition for homogenization by preventing cavitation.

Statement II: Homogenization decreases foaming in milk due to release of foam depressing proteins.

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

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

19088926517. 1

19088926518. 2

19088926519. 3

19088926520. 4

Question Number : 36 Question Id : 1908896657 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is/are true regarding heating of the concentrate to 70-75°C before atomisation in a spray drier?

- (A) It facilitates drying by reducing air inlet temperature
- (B) It saves energy because concentrate heating is more economical
- (C) This has no effect on solubility of powder
- (D) It has no effect on microbiological quality of the powder
- (E) Helps to increase capacity of spray drying plant

Choose the correct answer from the options given below :

- (1) (A), (D) and (E) only
- (2) (B), (C) and (D) only
- (3) (A), (B) and (E) only
- (4) (C), (D) and (E) only

Options :

19088926521. 1

19088926522. 2

19088926523. 3

19088926524. 4

Question Number : 37 Question Id : 1908896658 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements: One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : Whole milk powder produced from nozzle atomiser contains less free fat than from rotary atomizer.

Reason (R) : The concentrated milk is forced under higher pressure through a small orifice of nozzle atomiser and is atomised instantly.

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true and (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

19088926525. 1

19088926526. 2

19088926527. 3

19088926528. 4

Question Number : 38 Question Id : 1908896659 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

There will be no marked increase in efficiency of cream separation after 45-50°C because

- (1) The difference in density between serum and fat will not increase
- (2) The viscosity of milk will not decrease further
- (3) At higher temperature protein will precipitate and deposit on the disc
- (4) There will be higher entrapment of air bubbles on the disc

Options :

19088926529. 1

19088926530. 2

19088926531. 3

19088926532. 4

Question Number : 39 Question Id : 1908896660 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

On the basis of descending density which of the following is true?

- (1) Non-spore forming bacteria > spore forming bacteria > skimmed milk > whole milk
- (2) Skimmed milk > whole milk > non-spore forming bacteria > spore - forming bacteria
- (3) Whole milk > non -spore forming bacteria > spore forming bacteria > skimmed milk
- (4) Spore forming bacteria > non-spore forming bacteria > skimmed milk > whole milk

Options :

19088926533. 1

19088926534. 2

19088926535. 3

19088926536. 4

Question Number : 40 Question Id : 1908896661 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The higher the acidity of milk, the lower the efficiency of cream separation.

Statement II: If the milk is to be separated below 20°C, then the distance between the discs must be increased to prevent clogging.

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

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

19088926537. 1

19088926538. 2

19088926539. 3

19088926540. 4

Question Number : 41 Question Id : 1908896662 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: The rate of freezing obtained with cryogenic freezing is much greater than liquid-immersion freezing.

Statement II: Large or non-uniform products can be subjected to fluidized-bed freezing at reasonable air velocities.

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

- (1) Both Statement I and Statement II are true
- (2) Both Statement I and Statement II are false
- (3) Statement I is true but Statement II is false
- (4) Statement I is false but Statement II is true

Options :

19088926541. 1

19088926542. 2

19088926543. 3

19088926544. 4

Question Number : 42 Question Id : 1908896663 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements related to modified atmosphere packaging are correct?

- (A) Modified Atmosphere Packaging (MAP) with CO₂ concentration of 20-100% and balance N₂ is widely used for packaging of varieties of cheeses
- (B) MAP with 100% CO₂ flushed resists package collapse and maintains headspace volume.
- (C) Cottage cheese with 100% CO₂ keeps well in terms of sensory and microbial quality.
- (D) MAP suppresses microbial growth such as *Pseudomonas*, molds and yeasts.
- (E) MAP of high fat and high moisture cheeses with 100% CO₂ do not have an effect on the sensory properties.

Choose the correct answer from the options given below :

- (1) (B), (C) and (E) only
- (2) (A), (C) and (D) only
- (3) (A) and (D) only
- (4) (B), and (D) only

Options :

19088926545. 1

19088926546. 2

19088926547. 3

19088926548. 4

Question Number : 43 Question Id : 1908896664 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is the minimum water activity for toxin production by *Clostridium botulinum*?

- (1) 0.99
- (2) 0.80
- (3) 0.65
- (4) 0.94

Options :

19088926549. 1

19088926550. 2

19088926551. 3

Given 10,000 kg of 7% fat containing milk, cream of 40% fat is separated from the milk. Skim milk tests 0.1% fat while butter contains 83.33% fat and buttermilk contains 0.5% fat. Determine the quantity of buttermilk recovered.

- | | |
|--------------|--------------|
| (1) 683.7 kg | (2) 849.3 kg |
| (3) 729.5 kg | (4) 899.3 kg |

Options :

19088926561. 1
19088926562. 2
19088926563. 3
19088926564. 4

Question Number : 47 Question Id : 1908896668 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Give below are two statements: One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : Butter is much softer than butter fat or margarine with the same amount of solid fat.

Reason (R) : The fat globules in butter contain considerable part of crystalline fat. These crystals hardly participate in forming a continuous network or solid structure.

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true and (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

19088926565. 1
19088926566. 2
19088926567. 3
19088926568. 4

Question Number : 48 Question Id : 1908896669 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Give below are two statements: One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A): Butter from sour cream is much more affected by autooxidation than that from sweet cream.

Reason (R): Due to souring of the cream or milk, considerable amount of copper, naturally present or entered by contamination moves to the fat globules

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

- (1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are correct and (R) is NOT the correct explanation of (A)
- (3) (A) is correct but (R) is not correct
- (4) (A) is not correct but (R) is correct

Options :

19088926569. 1

19088926570. 2

19088926571. 3

19088926572. 4

Question Number : 49 Question Id : 1908896670 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Arrange the following methods of ghee making in terms of their increasing energy requirement (kcal/g)

- (A) Creamery butter
- (B) Pre-stratification
- (C) Indigenous
- (D) Continuous
- (E) Direct cream

Choose the correct answer from the options given below :

- (1) (B), (C), (D), (E), (A)
- (2) (D), (E), (A), (C), (B)
- (3) (C), (E), (B), (A), (D)
- (4) (D), (B), (A), (E), (C)

Options :

- 19088926573. 1
- 19088926574. 2
- 19088926575. 3
- 19088926576. 4

Question Number : 50 Question Id : 1908896671 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the percentage of water in the ice cream mix formed into ice when ice cream is extruded from the ice cream freezer at -5° to -6°C ?

- (1) 20-30%
- (2) 45-55%
- (3) 70-80%
- (4) 90-95%

Options :

- 19088926577. 1
- 19088926578. 2

19088926579. 3

19088926580. 4

Question Number : 51 Question Id : 1908896672 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following source of emulsifier or emulsifiers are desirable in ice cream mixes prepared with butter or butter oil as a main source of fat?

- (1) Tween 80
- (2) Egg yolk solids
- (3) Glycerol mono stearate
- (4) Sodium stearyl lactylate

Options :

19088926581. 1

19088926582. 2

19088926583. 3

19088926584. 4

Question Number : 52 Question Id : 1908896673 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements are correct with regard to orientation of plastic packaging films?

- (A) Uniaxial or biaxial molecular orientation of polymers involves stretching an un-oriented thermoplastic below its melting point but above glass transition temperature.
- (B) Oriented films are widely used in stretch packaging.
- (C) Oriented films have better optical properties but inferior gas barrier properties compared to their unoriented films.
- (D) Biaxially oriented polypropylene (BOPP) is used as a sealant layer in retort pouch.

Choose the most appropriate answer from the options given below :

- (1) (B), (C) and (D) only
- (2) (B) only
- (3) (A) only
- (4) (A), (B) and (C) only

Options :

19088926585. 1

19088926586. 2

19088926587. 3

19088926588. 4

Question Number : 53 Question Id : 1908896674 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following additives decreases the glass transition temperature of biopolymers?

- (1) UV light stabilizers
- (2) Antioxidants
- (3) Reinforcing agents
- (4) Plasticizers

Options :

19088926589. 1

19088926590. 2

19088926591. 3

19088926592. 4

Question Number : 54 Question Id : 1908896675 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following intelligent packaging tools simulates the changes in the packaged food and gives colorimetric response when applied externally?

- | | |
|-------------------------|-------------------|
| (1) Freshness Indicator | (2) RFID Tag |
| (3) Biological TTI | (4) Gas indicator |

Options :

19088926593. 1

19088926594. 2

19088926595. 3

19088926596. 4

Question Number : 55 Question Id : 1908896676 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is used as an adhesive or tie-layers for extrusion lamination of packaging films?

- | | |
|------------------------------|----------------------------|
| (1) Silicone-based material | (2) Ethylene vinyl alcohol |
| (3) Poly vinylidene chloride | (4) Ethylene vinyl acetate |

Options :

19088926597. 1

19088926598. 2

19088926599. 3

19088926600. 4

Question Number : 56 Question Id : 1908896677 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following correctly describes the relationship between the circumferential stress (σ), package diameter (d), wall's thickness (L) and the internal pressure (P) of a glass packaging material /bottle?

(1) $\sigma = \frac{2L}{P.d}$

(2) $P = \frac{2\sigma}{L.d}$

(3) $\sigma = \frac{P.d}{2L}$

(4) $P = \frac{L.d}{2\sigma}$

Options :

19088926601. 1

19088926602. 2

19088926603. 3

19088926604. 4

Question Number : 57 Question Id : 1908896678 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following thermoplastic packaging materials is non-crystallizable and have bulky pendent groups?

(1) Poly ethylene terephthalate

(2) High density polyethylene

(3) Polystyrene

(4) Linear low density polyethylene

Options :

19088926605. 1

19088926606. 2

19088926607. 3

19088926608. 4

Question Number : 58 Question Id : 1908896679 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I	List II
(A) Ethyl alcohol	(I) 2 kcal/g
(B) Dietary fibre	(II) 0 kcal/g
(C) Organic acid	(III) 7 kcal/g
(D) Erythritol	(IV) 3 kcal/g

Choose the correct answer from the options given below :

- (1) (A)-(III), (B)-(I), (C)-(IV), (D)-(II)
- (2) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)
- (3) (A)-(II), (B)-(III), (C)-(I), (D)-(IV)
- (4) (A)-(III), (B)-(IV), (C)-(I), (D)-(I)

Options :

19088926609. 1

19088926610. 2

19088926611. 3

19088926612. 4

Question Number : 59 Question Id : 1908896680 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

According to the Food Safety and Standards (Labelling and Display) Regulations (2019), which of the following statements are correct?

- (A) Declaration regarding food allergens is optional
- (B) The country of origin of the food shall be declared on the label of food imported into India
- (C) Table top sweeteners are exempted from mandatory nutritional labelling
- (D) Every package of non-vegetarian food containing ingredients of animal origin shall bear a symbol consisting of brown colour filled circle inside a square with brown outline.

Choose the most appropriate answer from the options given below :

- (1) (A), (B) and (D) only
- (2) (B) and (C) only
- (3) (A) and (B) only
- (4) (C) and (D) only

Options :

19088926613. 1

19088926614. 2

19088926615. 3

19088926616. 4

Question Number : 60 Question Id : 1908896681 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements related to application of membrane techniques in cheese making are true?

- (A) Application of ultra filtration in cheese making results in 10-30% increase in cheese yield
- (B) Casein micelles are larger than bacteria and milk fat and hence micro filtration helps in its easy separation
- (C) Viscosity of milk dramatically increases during membrane processing when protein content exceeds 12-14%.
- (D) Recirculation of ultrafiltration retentate may lead to partial homogenization of fat and reduce textural quality of hard cheese.

Choose the most appropriate answer from the options given below :

- (1) (A), (B), (C) and (D) only
- (2) (A) and (D) only
- (3) (A), (B) and (C) only
- (4) (A), (C) and (D) only

Options :

19088926617. 1

19088926618. 2

19088926619. 3

19088926620. 4

Question Number : 61 Question Id : 1908896682 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which type of pump is used in milk homogenizer?

- (1) Multistage centrifugal pump
- (2) Centrifugal pump with self priming
- (3) Triplex reciprocating pump
- (4) Gear pump

Options :

19088926621. 1

19088926622. 2

19088926623. 3

19088926624. 4

Question Number : 62 Question Id : 1908896683 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What is the cause of wear in valve assembly of homogenizer?

- (1) Cavitation
- (2) Change in product temperature
- (3) High fluid velocity required for homogenization
- (4) Both (1) and (3)

Options :

19088926625. 1

19088926626. 2

19088926627. 3

19088926628. 4

Question Number : 63 Question Id : 1908896684 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In two stage homogenization process, the purpose of adding second stage is to

- (1) Decrease the fat globule size
- (2) Separate the fat clusters into individual fat molecules
- (3) Increase the product stability
- (4) Reduce the power requirement of homogenizer

Options :

19088926629. 1

19088926630. 2

19088926631. 3

19088926632. 4

Question Number : 64 Question Id : 1908896685 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements are true with regard to HTST pasteurizer?

- (A) Automatic precision control assures positive pasteurization
- (B) Complete drainage is possible without losses
- (C) System is suited for regenerative heating
- (D) System imparts cooked flavour to milk than does vat pasteurization

Choose the most appropriate answer from the options given below :

- (1) (A), (B) only
- (2) (A), (C) only
- (3) (C), (D) only
- (4) (A), (C), (D) only

Options :

19088926633. 1

19088926634. 2

19088926635. 3

19088926636. 4

Question Number : 65 Question Id : 1908896686 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In HTST pasteurizer, raw milk enters and leaves the regenerator at the temperatures 4°C and 65.2°C respectively. If the pasteurization temperature is 72°C , then the regeneration efficiency will be

- (1) 85%
- (2) 88%
- (3) 90%
- (4) 92%

Options :

19088926637. 1

19088926638. 2

19088926639. 3

19088926640. 4

Question Number : 66 Question Id : 1908896687 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In HTST milk pasteurizer, the average residence time is determined from the volumetric flow rate of milk and the

- | | |
|--------------------------------|--|
| (1) Flow rate of hot water | (2) Heat transfer area of plates |
| (3) Dimensions of holding tube | (4) Over all heat transfer coefficient |

Options :

19088926641. 1

19088926642. 2

19088926643. 3

19088926644. 4

Question Number : 67 Question Id : 1908896688 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A good refrigerant should have

- (1) High latent heat of vaporization and low freezing point
- (2) High operating pressures and low freezing point
- (3) High specific volume and high latent heat of vaporization
- (4) Low C.O.P. and low freezing point

Options :

19088926645. 1

19088926646. 2

19088926647. 3

19088926648. 4

Question Number : 68 Question Id : 1908896689 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In vapour compression refrigeration system, the refrigerant has maximum temperature.

- (1) Between compressor and condenser
- (2) Between condenser and evaporator
- (3) In evaporator
- (4) Before expansion valve

Options :

19088926649. 1

19088926650. 2

19088926651. 3

19088926652. 4

Question Number : 69 Question Id : 1908896690 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The function of one of following is to desuperheat the vapour coming out of compressor in multi compression refrigeration system

- (1) Flash chamber
- (2) Inter cooler
- (3) Expansion valve
- (4) Condenser

Options :

19088926653. 1

19088926654. 2

19088926655. 3

19088926656. 4

Question Number : 70 Question Id : 1908896691 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The comfort conditions in air conditioning are

- | | |
|--------------------------|-------------------------|
| (1) 25°C DBT and 100% RH | (2) 20°C DBT and 80% RH |
| (3) 22°C DBT and 60% RH | (4) 25°C DBT and 40% RH |

Where DBT = Dry Bulb Temperature
RH = Relative Humidity

Options :

- 19088926657. 1
- 19088926658. 2
- 19088926659. 3
- 19088926660. 4

Question Number : 71 Question Id : 1908896692 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In the casing of a centrifugal pump the _____ energy of water is converted into _____ energy, before the water leaves the casing. Fill in the blanks appropriately.

- | | |
|-----------------------|-----------------------|
| (1) Pressure, Kinetic | (2) Kinetic, Pressure |
| (3) Pressure, flow | (4) Thermal, pressure |

Options :

- 19088926661. 1
- 19088926662. 2
- 19088926663. 3
- 19088926664. 4

Question Number : 72 Question Id : 1908896693 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A double action reciprocating pump has length of stroke 'L' metre, area of cross section 'A' m². What will be the discharge 'Q' m³/s from the pump, if the crank speed is 'N' RPM?

- (1) LAN (2) 2 LAN
(3) $\frac{60 LN}{A}$ (4) $\frac{2 LAN}{60}$

Options :

19088926665. 1

19088926666. 2

19088926667. 3

19088926668. 4

Question Number : 73 Question Id : 1908896694 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statements on cavitation in centrifugal pumps is correct?

- (A) Cavitation occurs when pressure in suction line is too high relative to vapour pressure of pumped liquid.
(B) Cavitation occurs when pressure in suction line is too low relative to vapour pressure of pumped liquid.
(C) The tendency to cavitate decreases when volatile liquids are pumped
(D) Cavitation can be avoided by decreasing the pressure drop in suction line

Choose the most appropriate answer from the options given below :

- (1) (A), (C) only
(2) (B), (C) only
(3) (B), (D) only
(4) (A), (D) only

Options :

19088926669. 1

19088926670. 2

Which of the following statements on alternating current circuits are true?

- (A) In circuits with primarily inductive loads, the current leads the voltage.
- (B) The ratio of resistance to impedance of A.C. circuit is known as power factor of the circuit.
- (C) Two alternating quantities reach their maximum or minimum value at different time, keeping any equal phase angle between them are called 'in phase'
- (D) The steady state d.c. current which produce the same heat as that produced by alternating current in a given time and given resistance is known as the root mean square value of alteranating current.

Choose the most appropriate answer from the options given below :

- (1) (A), (B) only
- (2) (B), (D) only
- (3) (A), (B), (C) only
- (4) (A) and (D) only

Options :

19088926677. 1

19088926678. 2

19088926679. 3

19088926680. 4

Question Number : 76 Question Id : 1908896697 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In an a.c. circuit the resistance (R), inductance (L) and capacitance (C) are connected in series. The impedance (Z) of the circuit would be

- (1) $Z = \sqrt{R^2 + X_L^2 - X_C^2}$
- (2) $Z = \sqrt{R^2 + (X_L - X_C)^2}$
- (3) $Z = \sqrt{X_L^2 + (R - X_C)^2}$
- (4) $Z = R + (X_L - X_C)$

Options :

19088926681. 1

19088926682. 2

19088926683. 3

19088926684. 4

Question Number : 77 Question Id : 1908896698 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The BH curve of a ferromagnetic material is

(1) Linear

(2) Non-linear

(3) Circle

(4) Semi circle

Options :

19088926685. 1

19088926686. 2

19088926687. 3

19088926688. 4

Question Number : 78 Question Id : 1908896699 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following device is used in evaporator to prevent the assimilation of liquid droplets in the discharging vapour stream?

(1) Vacuum system

(2) Calendria

(3) Entrainment separator

(4) Vapour compressor

Options :

19088926689. 1

19088926690. 2

19088926691. 3

19088926692. 4

Question Number : 79 Question Id : 1908896700 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In spray dryer, the velocity of particle and its trajectory determine the

- | | |
|-----------------------|------------------------|
| (1) Droplet size | (2) Weight of particle |
| (3) Shape of particle | (4) Residence time |

Options :

19088926693. 1

19088926694. 2

19088926695. 3

19088926696. 4

Question Number : 80 Question Id : 1908896701 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The 'Aspect Ratio' of the drying chamber of a spray dryer is the ratio of

- | | |
|-----------------------------|------------------------|
| (1) Circumference to height | (2) Height to diameter |
| (3) Diameter to cone angle | (4) Diameter to height |

Options :

19088926697. 1

19088926698. 2

19088926699. 3

19088926700. 4

Question Number : 81 Question Id : 1908896702 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In case of the thermodynamic system

- (A) System boundary separates the system and surroundings.
- (B) System boundary may be fixed only
- (C) Everything external to system is called surroundings.
- (D) System boundary may be moving only.
- (E) System boundary may be either fixed or moving.

Choose the correct answer from the options given below :

- (1) (A), (B), (C)
- (2) (A), (C), (E)
- (3) (C), (D), (A)
- (4) (A), (D)

Options :

19088926701. 1

19088926702. 2

19088926703. 3

19088926704. 4

Question Number : 82 Question Id : 1908896703 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The equation of the inequality of Clasius is

(1) $\oint \frac{dQ}{T} < 0$

(2) $\oint \frac{dQ}{T} \geq 0$

(3) $\oint \frac{dQ}{T} \leq 0$

(4) $\oint \frac{dQ}{T} > 0$

Options :

19088926705. 1

19088926706. 2

19088926707. 3

19088926708. 4

Question Number : 83 Question Id : 1908896704 Question Type : MCQ Option Shuffling : No Is

The process variables, determining the effectiveness of cleaning of dairy equipments are

- (A) Temperature
- (B) Contact time
- (C) Concentration
- (D) Physical action

Choose the most appropriate answer from the options given below :

- (1) (A) and (C) only
- (2) (A), (C), (D) only
- (3) (A), (B), (C), (D) only
- (4) (A), (B), (D) only

Options :

19088926717. 1

19088926718. 2

19088926719. 3

19088926720. 4

Question Number : 86 Question Id : 1908896707 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In reaction kinetics, for first order reaction, the relation between rate constant (K) and decimal reduction time (D) is

(A) $D = \frac{\log 10}{K}$

(B) $D = \frac{2.303}{K}$

(C) $D = \frac{\ln 10}{K}$

(D) $D = \frac{1}{K}$

Choose the most appropriate answer from the options given below :

- (1) (A) and (D) only
- (2) (A) and (B) only
- (3) (B) and (C) only
- (4) (C) and (D) only

Options :

19088926721. 1

19088926722. 2

19088926723. 3

19088926724. 4

Question Number : 87 Question Id : 1908896708 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Zeroth order of reaction, in reaction kinetics, is given by

(A) $\frac{dc}{dt} = -kc$

(B) $C = C_0 - kt$

(C) $\ln\left(\frac{C}{C_0}\right) = -kt$

(D) $\frac{dc}{dt} = -k$

Choose the most appropriate answer from the options given below :

- (1) (A) and (C) only
- (2) (B) and (C) only
- (3) (A) and (B) only
- (4) (B) and (D) only

Options :

19088926725. 1

19088926726. 2

19088926727. 3

19088926728. 4

Question Number : 88 Question Id : 1908896709 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The different relations for Young's Modulus (E), Bulk Modulus (K) and Modulus of Rigidity (G) are given by:

- (A) $E = 2G(1 + \mu)$, μ is Poisson's ratio
- (B) $E = 3K(1 + 2\mu)$
- (C) $E = 2G(1 - \mu)$
- (D) $E = 3K(1 - 2\mu)$
- (E) $E = 2K(1 - 2\mu)$

Choose the most appropriate answer from the options given below :

- (1) (A) and (B) only
- (2) (C) and (D) only
- (3) (A) and (D) only
- (4) (C) and (E) only

Options :

19088926729. 1

19088926730. 2

19088926731. 3

19088926732. 4

Question Number : 89 Question Id : 1908896710 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In spur gears, the module is defined as ratio of

- (1) Number of teeth to pitch circle diameter
- (2) Circular pitch to number of teeth
- (3) Pitch circle diameter to circular pitch
- (4) Pitch circle diameter to number of teeth

Options :

19088926733. 1

19088926734. 2

19088926735. 3

19088926736. 4

Question Number : 90 Question Id : 1908896711 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The equation of Wahl's stress factor (K) is expressed by _____, where C is spring index.

(1) $\frac{4C - 1}{4C + 4} - \frac{0.615}{C}$

(2) $\frac{4C + 1}{4C - 1} + \frac{0.615}{C}$

(3) $\frac{4C - 1}{4C - 4} + \frac{0.615}{C}$

(4) $\frac{4C + 1}{4C + 4} - \frac{0.615}{C}$

Options :

19088926737. 1

19088926738. 2

19088926739. 3

19088926740. 4

Question Number : 91 Question Id : 1908896712 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The most commonly used equipment for arc welding consist of :

- (A) AC or DC Machine; Electrode; Pressure Regulator; Cables; Wire brush
- (B) Electrode holder; Chipping hammer; Earthing Clamps; Helmet; AC or DC Machine
- (C) Pressure regulator; Welding torch; Welding tip; Hose and hose fittings; AC or DC Machine
- (D) Pressure regulator; hose and hose fittings; Welding torch; Welding tip; Safety goggles

Choose the most appropriate answer from the options given below :

- (1) (A) only
- (2) (B) only
- (3) (C) only
- (4) (D) only

Options :

19088926741. 1

19088926742. 2

19088926743. 3

19088926744. 4

Question Number : 92 Question Id : 1908896713 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

When a number of single spindle drilling machine columns are placed side by side on a common base and have a common work table, the machine is known as the

- (1) Multiple spindle drilling machine
- (2) Sensitive drilling machine
- (3) Gang drilling machine
- (4) Universal radial drilling machine

Options :

19088926745. 1

19088926746. 2

19088926747. 3

19088926748. 4

Question Number : 93 Question Id : 1908896714 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In mixing and agitation of fluids

- (A) Paddle and anchor mixers are usually operated at low speed
- (B) Propeller mixers are primarily used to blend high viscosity liquids.
- (C) Turbine mixtures are usually operated at high speed
- (D) Propeller mixers are primarily used to blend low viscosity liquids.

Choose the most appropriate answer from the options given below :

- (1) (A), (B), (C) only
- (2) (B), (C) only
- (3) (C), (D) only
- (4) (A), (C), (D) only

Options :

- 19088926749. 1
- 19088926750. 2
- 19088926751. 3
- 19088926752. 4

Question Number : 94 Question Id : 1908896715 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A vertical cylindrical vessel, equipped with a 3-blade propeller mixer, is to be used for blending syrups. The propeller has a diameter of 0.1 m and rotates at a speed of 60 rpm. The syrup density is 1200 kg/m^3 . What is the mechanical power input to the mixer when power number is 15?

- (1) 0.20 W
- (2) 0.18 W
- (3) 0.16 W
- (4) 0.15 W

Options :

- 19088926753. 1

19088926754. 2

19088926755. 3

19088926756. 4

Question Number : 95 Question Id : 1908896716 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If there is no change in the temperatures of liquid and the tube wall for turbulent flow through the tube, flow velocity is doubled and tube diameter is halved, then the heat transfer coefficient will become / remain _____ the original value.

- (1) Same (2) Half
(3) Four times (4) Two times

Options :

19088926757. 1

19088926758. 2

19088926759. 3

19088926760. 4

Question Number : 96 Question Id : 1908896717 Question Type : MCQ Option Shuffling : No Is

Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The critical radius of insulation is dependent on the thermal conductivity (K) of material and outside film coefficient (h_0). The critical radius for a cylinder is ($r = r_c$):

- (1) $r = r_c = \frac{2k}{h_0}$ (2) $r = r_c = \frac{k}{2h_0}$
(3) $r = \frac{h_0}{k}$ (4) $r = \frac{k}{h_0}$

Options :

19088926761. 1

19088926762. 2

19088926763. 3

19088926764. 4

Question Number : 97 Question Id : 1908896718 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The shape factor, geometrical factor, configuration factor or view factor are used in

- | | |
|------------------------------|-------------------------------|
| (1) Conduction heat transfer | (2) Convection heat transfer |
| (3) Radiation Heat Transfer | (4) Evaporative Heat Transfer |

Options :

19088926765. 1

19088926766. 2

19088926767. 3

19088926768. 4

Question Number : 98 Question Id : 1908896719 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In the derivation of Bernoulli's equation which of the following assumptions is not true?

- (1) The flow is incompressible and irrotational
- (2) The flow is steady and irrotational
- (3) The flow is steady and viscosity is zero
- (4) The flow is steady and viscosity is non-zero

Options :

19088926769. 1

19088926770. 2

19088926771. 3

19088926772. 4

Question Number : 99 Question Id : 1908896720 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Viscosity of gases _____, with increase in temperature.

- (1) Decreases
- (2) Remains same
- (3) Increases
- (4) Changes predominantly due to cohesive forces

Options :

19088926773. 1

19088926774. 2

19088926775. 3

19088926776. 4

Question Number : 100 Question Id : 1908896721 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match List I with List II

List I

List II

- | | |
|---------------------|--|
| (A) Froude Number | (I) Inertia force and pressure force |
| (B) Reynolds Number | (II) Inertia force and surface tension force |
| (C) Euler Number | (III) Inertia force and gravity force |
| (D) Weber Number | (IV) Inertia force and viscous force |

Choose the correct answer from the options given below :

- (1) (A)-(II), (B)-(IV), (C)-(III), (D)-(I)
- (2) (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
- (3) (A)-(III), (B)-(IV), (C)-(I), (D)-(II)
- (4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I)

Options :

19088926777. 1

19088926778. 2

19088926779. 3

19088926780. 4

**Question Number : 101 Question Id : 1908896722 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements: One is labelled as Assertion A and the other is labelled as Reason R.

Assertion (A) : Milk path should be as short as possible in dairy processing plant.

Reasons (R) : It will minimize the cost of pipe line and cleaning time.

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true and (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

19088926781. 1

19088926782. 2

19088926783. 3

19088926784. 4

**Question Number : 102 Question Id : 1908896723 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements :

Statement I: Processing equipment should occupy 80-90 percent of the floor area allotted to processing section.

Statement II: It ensures effective utilization of built up space for ease of operation.

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

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

19088926785. 1

19088926786. 2

19088926787. 3

19088926788. 4

Question Number : 103 Question Id : 1908896724 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Biological Oxygen Demand (BOD) indicates

- (1) Oxygen concentration of effluent
- (2) Extent of inorganic matter
- (3) Amount of oxygen required to stabilize the effluent
- (4) 90% of oxygen required for 100% stabilization of effluent.

Options :

19088926789. 1

19088926790. 2

19088926791. 3

19088926792. 4

Question Number : 104 Question Id : 1908896725 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : In Proportional Integral (PI) control mode, one mode provides stability and the other mode removes the off-set.

Reasons (R) : The proportional mode removes the off set (i.e. automatic reset)

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true and (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

- 19088926793. 1
- 19088926794. 2
- 19088926795. 3
- 19088926796. 4

Question Number : 105 Question Id : 1908896726 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Programmable Logic Controller (PLC) is an industrial computer adopted for control of manufacturing process.

Statement II: Ladder diagram is a high end complex programming language.

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

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

19088926797. 1

19088926798. 2

19088926799. 3

19088926800. 4

Question Number : 106 Question Id : 1908896727 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Osmotic pressure of solution containing 0.15 gmol NaCl/1000 g H₂O at 25°C. Assume density of water as 997.0 kg/m³.

- | | |
|---------------|----------------|
| (1) ~ 3.7 bar | (2) ~ 7.41 bar |
| (3) ~ 5.3 bar | (4) ~ 6.0 bar |

Options :

19088926801. 1

19088926802. 2

19088926803. 3

19088926804. 4

**Question Number : 107 Question Id : 1908896728 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Which of the following is not possible with micro filtration?

- | | |
|-----------------------------------|-------------------------------------|
| (1) Bacteria removal | (2) Fat globule fractionation |
| (3) Lactose concentration in whey | (4) Concentration of casein in milk |

Options :

19088926805. 1

19088926806. 2

19088926807. 3

19088926808. 4

**Question Number : 108 Question Id : 1908896729 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

The usual range of applied pressure in micro filtration is

- | | |
|-------------|-------------|
| (1) 0-3 bar | (2) 3-5 bar |
| (3) 5-7 bar | (4) > 7 bar |

Options :

19088926809. 1

19088926810. 2

19088926811. 3

19088926812. 4

**Question Number : 109 Question Id : 1908896730 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: Arrhenius equations relates reaction rate constants with molar volume distribution.

Statement II: The basis of Arrhenius equation is the activated complex theory of chemical reactions which depends on temperature.

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

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are incorrect
- (3) Statement I is correct but Statement II is incorrect
- (4) Statement I is incorrect but Statement II is correct

Options :

19088926813. 1

19088926814. 2

19088926815. 3

19088926816. 4

Question Number : 110 Question Id : 1908896731 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A single effect evaporator concentrates 100 kg/hr fruit juice from 10% solids to 25% solids. The evaporation capacity in terms of water evaporated is

- (1) 40 kg/hr
- (2) 50 kg/hr
- (3) 20 kg/hr
- (4) 60 kg/hr

Options :

19088926817. 1

19088926818. 2

19088926819. 3

19088926820. 4

Question Number : 111 Question Id : 1908896732 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The porosity of a fluidized bed increased from 0.5 to 0.75. If the initial bed of height was 10 cm, the final bed height is

- (1) 16 cm (2) 20 cm
(3) 18 cm (4) 14 cm

Options :

19088926821. 1
19088926822. 2
19088926823. 3
19088926824. 4

Question Number : 112 Question Id : 1908896733 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Dew point is

- (1) Temperature at which the relative humidity is 60%
(2) Temperature at which condensation of water vapour in air starts
(3) Temperature at which ice sublimates
(4) Minimum temperature during night which causes morning dew.

Options :

19088926825. 1
19088926826. 2
19088926827. 3
19088926828. 4

Question Number : 113 Question Id : 1908896734 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : Only about 70% to 80% of the circumference of the drum can be effectively used for drying in drum dryer.

Reasons (R) : Feed and discharge cannot be at the same point for reasons of construction.

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true but (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

19088926829. 1

19088926830. 2

19088926831. 3

19088926832. 4

Question Number : 114 Question Id : 1908896735 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

FORTRAN stands for

- | | |
|-----------------------------|----------------------------|
| (1) Force Transmission | (2) Formula Transformation |
| (3) Formula Transfiguration | (4) Formula Translation |

Options :

19088926833. 1

19088926834. 2

19088926835. 3

19088926836. 4

**Question Number : 115 Question Id : 1908896736 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: In filter press the resistances of medium and cake are in series.

Statement II: In filter press, flow rate is inversely proportional to pressure drop.

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

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are not correct
- (3) Statement I is correct but Statement II not correct
- (4) Statement I is not correct but Statement II not correct

Options :

19088926837. 1

19088926838. 2

19088926839. 3

19088926840. 4

**Question Number : 116 Question Id : 1908896737 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Given below are two statements

Statement I: In vertical leaf filters, the cake is removed by back flushing.

Statement II: "Plate and frame filters are easy to dismantle and clean.

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

- (1) Both Statement I and Statement II are correct
- (2) Both Statement I and Statement II are not correct
- (3) Statement I is correct but Statement II is not correct
- (4) Statement I is not correct but Statement II is correct

Options :

19088926841. 1

19088926842. 2

19088926843. 3

19088926844. 4

Question Number : 117 Question Id : 1908896738 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : Cyclone is a settling device to separate small solid particles or mist from gases with high efficiency.

Reasons (R) : The outward force on particles in cyclone due to low tangential velocities is substantially lower than gravity force and this contributes to enhanced separation.

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

- (1) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are true and (R) is NOT the correct explanation of (A)
- (3) (A) is true but (R) is false
- (4) (A) is false but (R) is true

Options :

19088926845. 1

19088926846. 2

19088926847. 3

19088926848. 4

Question Number : 118 Question Id : 1908896739 Question Type : MCQ Option Shuffling : No Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Given below are two statements : One is labelled as Assertion (A) and the other is labelled as Reason (R).

Assertion (A) : The power consumption of a centrifuge with direct drive electric motor connection is lower.

Reasons (R) : The losses of belt or gear drive are minimized.

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

- (1) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (2) Both (A) and (R) are correct and (R) is NOT the correct explanation of (A)
- (3) (A) is correct but (R) is not correct
- (4) (A) is not correct but (R) is correct

Options :

19088926849. 1

19088926850. 2

19088926851. 3

19088926852. 4

Question Number : 119 Question Id : 1908896740 Question Type : MCQ Option Shuffling : No

Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In grinding of wheat, the particle size distribution was bell shaped or normal distribution.

The cumulative percent plot of these particles is

- | | |
|---------------|------------------------|
| (1) U shape | (2) Inverted 'U' shape |
| (3) 'S' shape | (4) Inverted 'V' shape |

Options :

19088926853. 1

19088926854. 2

19088926855. 3

19088926856. 4

**Question Number : 120 Question Id : 1908896741 Question Type : MCQ Option Shuffling : No
Is Question Mandatory : No**

Correct Marks : 4 Wrong Marks : 1

Sugar crystals were ground from average sauter mean diameter of $400 \mu m$ to powder with an average sauter mean diameter of $200 \mu m$. The net energy consumption was 0.4 kWh per ton. What would be the net energy consumption for reducing the crystal to $50 \mu m$ average sauter mean diameter using Rittinger's law, in kWh/ton ?

(1) 160

(2) 1.8

(3) 2.8

(4) 3.8

Options :

19088926857. 1

19088926858. 2

19088926859. 3

19088926860. 4