

# I tcf wcv'Cr vkwf g'Vguv'kp'Gpi kpggt kpi

## P qv'kpu'k

- Options shown in green color and with ✓ icon are correct.
- Options shown in red color and with ✗ icon are incorrect.

S wvukqp'Rcr gt'P co g<

TF: TEXTILE ENGINEERING AND FIBRE SCIENCE 1st Feb Shift2

P wo dgt 'qh'S wvukqp<

65

Vqcr'O ct m<

100.0

Wrong answer for MCQ will result in negative marks, (-1/3) for 1 mark Questions and (-2/3) for 2 marks Questions.

## General Aptitude

Number of Questions: 10  
Section Marks: 15.0

Q.1 to Q.5 carry 1 mark each & Q.6 to Q.10 carry 2 marks each.

S wvukqp'P wo dgt '23'S wvukqp'V{ r g'kO ES

Choose the appropriate word/phrase, out of the four options given below, to complete the following sentence:

Apparent lifelessness \_\_\_\_\_ dormant life.

- (A) harbours                      (B) leads to                      (C) supports                      (D) affects

Qr v'kpu'k

- ✓ A
- ✗ B
- ✗ C
- ✗ D

S wvukqp'P wo dgt '24'S wvukqp'V{ r g'kO ES

Fill in the blank with the correct idiom/phrase.

That boy from the town was a \_\_\_\_\_ in the sleepy village.

- (A) dog out of herd                      (B) sheep from the heap  
(C) fish out of water                      (D) bird from the flock

Qr v'kpu'k

- ✗ A
- ✗ B
- ✓ C
- ✗ D

S wvukqp'P wo dgt '25'S wvukqp'V{ r g'kO ES

Choose the statement where underlined word is used correctly.

- (A) When the teacher eludes to different authors, he is being elusive.
- (B) When the thief keeps eluding the police, he is being elusive.
- (C) Matters that are difficult to understand, identify or remember are allusive.
- (D) Mirages can be allusive, but a better way to express them is illusory.

Qr v kpu' <

- 1. ✘ A
- 2. ✔ B
- 3. ✘ C
- 4. ✘ D

S wgu kqp' P wo dgt ' 26 " S wgu kqp' V { r g' 2 O E S

Tanya is older than Eric.  
Cliff is older than Tanya.  
Eric is older than Cliff.

If the first two statements are true, then the third statement is:

- (A) True
- (B) False
- (C) Uncertain
- (D) Data insufficient

Qr v kpu' <

- 1. ✘ A
- 2. ✔ B
- 3. ✘ C
- 4. ✘ D

S wgu kqp' P wo dgt ' 27 " S wgu kqp' V { r g' 2 O E S

Five teams have to compete in a league, with every team playing every other team exactly once, before going to the next round. How many matches will have to be held to complete the league round of matches?

- (A) 20
- (B) 10
- (C) 8
- (D) 5

Qr v kpu' <

- 1. ✘ A
- 2. ✔ B
- 3. ✘ C
- 4. ✘ D

S wgu kqp' P wo dgt ' 28 " S wgu kqp' V { r g' 2 O E S

Select the appropriate option in place of underlined part of the sentence.

Increased productivity necessary reflects greater efforts made by the employees.

- (A) Increase in productivity necessary
- (B) Increase productivity is necessary
- (C) Increase in productivity necessarily
- (D) No improvement required

Qr v&kp'u'<

- 1. ✘ A
- 2. ✘ B
- 3. ✔ C
- 4. ✘ D

S w&ukqp'P wo dgt '29''S w&ukqp'V{ r g'2O ES

Given below are two statements followed by two conclusions. Assuming these statements to be true, decide which one logically follows.

Statements:

- I. No manager is a leader.
- II. All leaders are executives.

Conclusions:

- I. No manager is an executive.
- II. No executive is a manager.

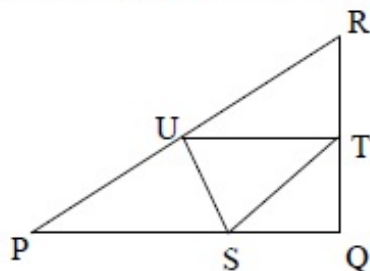
- (A) Only conclusion I follows.
- (B) Only conclusion II follows.
- (C) Neither conclusion I nor II follows.
- (D) Both conclusions I and II follow.

Qr v&kp'u'<

- 1. ✘ A
- 2. ✘ B
- 3. ✔ C
- 4. ✘ D

S w&ukqp'P wo dgt '2: ''S w&ukqp'V{ r g'2PCV

In the given figure angle Q is a right angle,  $PS:QS = 3:1$ ,  $RT:QT = 5:2$  and  $PU:UR = 1:1$ . If area of triangle QTS is  $20 \text{ cm}^2$ , then the area of triangle PQR in  $\text{cm}^2$  is \_\_\_\_\_.



S wgnkqp'Pwo dgt '2; "S wgnkqp'V{rg'2O ES

Right triangle PQR is to be constructed in the  $xy$  - plane so that the right angle is at P and line PR is parallel to the  $x$ -axis. The  $x$  and  $y$  coordinates of P, Q, and R are to be integers that satisfy the inequalities:  $-4 \leq x \leq 5$  and  $6 \leq y \leq 16$ . How many different triangles could be constructed with these properties?

- (A) 110                      (B) 1,100                      (C) 9,900                      (D) 10,000

Qr vkpu'<

1. ✘ A
2. ✘ B
3. ✔ C
4. ✘ D

S wgnkqp'Pwo dgt '232" S wgnkqp'V{rg'2O ES

A coin is tossed thrice. Let  $X$  be the event that head occurs in each of the first two tosses. Let  $Y$  be the event that a tail occurs on the third toss. Let  $Z$  be the event that two tails occur in three tosses. Based on the above information, which one of the following statements is TRUE?

- (A)  $X$  and  $Y$  are not independent                      (B)  $Y$  and  $Z$  are dependent  
(C)  $Y$  and  $Z$  are independent                      (D)  $X$  and  $Z$  are independent

Qr vkpu'<

1. ✘ A
2. ✔ B
3. ✘ C
4. ✘ D

Textile Engineering and Fibre Science

Number of Questions: 55  
Section Marks: 85.0

Q.11 to Q.35 carry 1 mark each & Q.36 to Q.65 carry 2 marks each.

S wgnkqp'Pwo dgt '233" S wgnkqp'V{rg'2PCV

If 3 and 4 are two eigen values of  $A = \begin{bmatrix} 3 & a & b \\ c & 2 & d \\ e & f & 4 \end{bmatrix}$  for some real numbers  $a, b, c, d, e,$  and  $f,$  then

the third eigen value of  $A$  is \_\_\_\_\_

S wgnkqp'P wo dgt '234''S wgnkqp'V{ r g'2PCV

If a continuous random variable X has probability density function

$$f(x) = \begin{cases} ax^2, & 0 \leq x \leq 1 \\ 0, & \text{otherwise} \end{cases}$$

then the value of  $a$  is \_\_\_\_\_

Eq t gev' Cpuy gt '2

3

S wgnkqp'P wo dgt '235''S wgnkqp'V{ r g'2PCV

The value of  $\lim_{x \rightarrow 0} \frac{\sin x}{x}$  is \_\_\_\_\_

Eq t gev' Cpuy gt '2

1

S wgnkqp'P wo dgt '236''S wgnkqp'V{ r g'2PCV

If  $A = \begin{bmatrix} 3 & 0 & 0 \\ 0 & 4 & 0 \\ 0 & 0 & \frac{1}{12} \end{bmatrix}$ , then determinant of  $A^{-1}$  is \_\_\_\_\_

Eq t gev' Cpuy gt '2

1

S wgnkqp'P wo dgt '237''S wgnkqp'V{ r g'2PCV

The number of linearly independent eigen vectors of the matrix  $\begin{bmatrix} 1 & 0 \\ 3 & 4 \end{bmatrix}$  is \_\_\_\_\_

Eq t gev' Cpuy gt '2

2

S wgnkqp'P wo dgt '238''S wgnkqp'V{rg'2O ES

The gum in the raw silk filament is

- (A) Wax (B) Lignin (C) Sericin (D) Fibroin

Qr vknpu'<

1. ✘ A  
2. ✘ B  
3. ✔ C  
4. ✘ D

S wgnkqp'P wo dgt '239''S wgnkqp'V{rg'2O ES

For production of dry-spun acrylic fibre, the suitable solvent for dope preparation is

- (A) Acetone  
(B) *N,N'* Dimethyl formamide  
(C) Formic acid  
(D) Aqueous sodium thiocyanate (55 wt%)

Qr vknpu'<

1. ✘ A  
2. ✔ B  
3. ✘ C  
4. ✘ D

S wgnkqp'P wo dgt '23: ''S wgnkqp'V{rg'2O ES

Adipic acid is a monomer for the production of

- (A) Poly(ethylene terephthalate)  
(B) Nylon 66  
(C) Nylon 64  
(D) Nylon 610

Qr vknpu'<

1. ✘ A  
2. ✔ B  
3. ✘ C  
4. ✘ D

S wgnkqp'P wo dgt '23; ''S wgnkqp'V{rg'2O ES

In melt spinning line, the melting of solid polymer and its homogenization takes place in

- (A) Manifold  
(B) Extruder  
(C) Metering pump  
(D) Quench duct

Qr vknpu'<

1. ✘ A  
2. ✔ B  
3. ✘ C

4. ✘ D

S wgnkqp'Pwo dgt '242''S wgnkqp'V{rg'2O ES

The blending technique that gives the most homogeneous mixing of fibres is

- (A) Lap blending      (B) Tuft blending      (C) Sliver blending      (D) Roving blending

Qr vknpu'<

1. ✘ A

2. ✔ B

3. ✘ C

4. ✘ D

S wgnkqp'Pwo dgt '243''S wgnkqp'V{rg'2O ES

In a cotton comber, noil extraction increases

- (A) With a decrease in detachment setting  
(B) With an increase in pre-combing draft  
(C) If majority of hooks are presented in leading direction  
(D) With an increase in short fibres

Qr vknpu'<

1. ✘ A

2. ✘ B

3. ✘ C

4. ✔ D

S wgnkqp'Pwo dgt '244''S wgnkqp'V{rg'2O ES

The bottom roller surface used for driving aprons in ringframe drafting system is

- (A) Knurled  
(B) Axially fluted  
(C) Spirally fluted  
(D) Smooth

Qr vknpu'<

1. ✔ A

2. ✘ B

3. ✘ C

4. ✘ D

S wgnkqp'Pwo dgt '245''S wgnkqp'V{rg'2O ES

If the numerical value of yarn linear density expressed in Tex and that in English system is the same, this value to the nearest integer is

- (A) 30                      (B) 28                      (C) 24                      (D) 22

Qr vknpu'<

1. ✘ A

2. ✘ B

3. ✔ C

4. ✘ D

QUESTION 46: Patterning is most likely to occur in

Patterning is most likely to occur in

- (A) Precision winding
- (B) Random winding
- (C) Step-precision winding
- (D) Pirn winding

ANSWER:

- 1. ✘ A
- 2. ✔ B
- 3. ✘ C
- 4. ✘ D

QUESTION 47: In cotton yarn sizing, the starch primarily acts as

In cotton yarn sizing, the starch primarily acts as

- (A) Binding agent
- (B) Lubricating agent
- (C) Antistatic agent
- (D) Antimicrobial agent

ANSWER:

- 1. ✔ A
- 2. ✘ B
- 3. ✘ C
- 4. ✘ D

QUESTION 48: Purl is a

Purl is a

- (A) Woven structure
- (B) Nonwoven structure
- (C) Braided structure
- (D) Knitted structure

ANSWER:

- 1. ✘ A
- 2. ✘ B
- 3. ✘ C
- 4. ✔ D

QUESTION 49: The technology/ies used for producing SMS fabric is/are

The technology/ies used for producing SMS fabric is/are

- (A) Spunlace
- (B) Spunlace and Meltblown
- (C) Needlepunch
- (D) Spunbond and Meltblown

ANSWER:

- 1. ✘ A
- 2. ✘ B
- 3. ✘ C
- 4. ✔ D



S wgnkqp'Pwo dgt '24: "S wgnkqp'V{ r g'2O ES

Jigger CANNOT be used for

- (A) Dyeing
- (B) Printing
- (C) Washing
- (D) Scouring

Qr vknpu'<

- 1. ✘ A
- 2. ✔ B
- 3. ✘ C
- 4. ✘ D

S wgnkqp'Pwo dgt '24; "S wgnkqp'V{ r g'2O ES

In the context of effluent discharge, BOD means

- (A) Bio-oxidative degradation
- (B) Bio oxygen distress
- (C) Biological oxygen demand
- (D) Bacteria observed on disc

Qr vknpu'<

- 1. ✘ A
- 2. ✘ B
- 3. ✔ C
- 4. ✘ D

S wgnkqp'Pwo dgt '252" S wgnkqp'V{ r g'2O ES

Milling is associated with the processing of

- (A) Cotton fabric
- (B) Silk fabric
- (C) Jute fabric
- (D) Wool fabric

Qr vknpu'<

- 1. ✘ A
- 2. ✘ B
- 3. ✘ C
- 4. ✔ D

S wgnkqp'Pwo dgt '253" S wgnkqp'V{ r g'2O ES

Dyed wool fabric standards are used for the evaluation of

- (A) Wash fastness
- (B) Perspiration fastness
- (C) Sublimation fastness
- (D) Light fastness

Qr vqpu'<

1. ✘ A
2. ✘ B
3. ✘ C
4. ✔ D

S wgvkqp'Pwo dgt '254''S wgvkqp'V{ r g'2O ES

The yarn tenacity (gf/tex) measured in lea form, compared to that measured in single yarn form is

- (A) Always lower
- (B) Always higher
- (C) Always equal
- (D) Higher or lower depending on yarn count

Qr vqpu'<

1. ✔ A
2. ✘ B
3. ✘ C
4. ✘ D

S wgvkqp'Pwo dgt '255''S wgvkqp'V{ r g'2O ES

The property that Kawabata Evaluation System (KES) **DOES NOT** measure is

- (A) Shear rigidity
- (B) Bending rigidity
- (C) Compressional resilience
- (D) Tensile strength

Qr vqpu'<

1. ✘ A
2. ✘ B
3. ✘ C
4. ✔ D

S wgvkqp'Pwo dgt '256''S wgvkqp'V{ r g'2O ES

On absorption of moisture, the thermal insulation of cotton fabric will

- (A) Decrease
- (B) Increase
- (C) Remain the same
- (D) First increase and then decrease

Qr vqpu'<

1. ✔ A
2. ✘ B
3. ✘ C
4. ✘ D

S wgvkqp'Pwo dgt '257''S wgvkqp'V{ r g'2O ES

For meeting the criterion of number of defects in a product, the relationship between upper control limit (UCL) and upper specification limit (USL) should be

- (A)  $UCL < USL$
- (B)  $UCL > USL$
- (C)  $UCL = 2USL$
- (D)  $UCL = (USL)^3$

Qr v kpu'k

- 1. ✓ A
- 2. ✗ B
- 3. ✗ C
- 4. ✗ D

S wgnkqp'P wo dgt 'k58''S wgnkqp'V{r g'kPCV

The maximum value of  $f(x) = \sqrt{2}(\sin x + \cos x)$  for  $x$  in  $[0, \pi]$  is \_\_\_\_\_

Eqtt gev' Cpuy gt 'k

2

S wgnkqp'P wo dgt 'k59''S wgnkqp'V{r g'kOES

Out of the following, the exact differential equation is

- (A)  $-ydx + xdy = 0$  (B)  $ydx + xdy = 0$  (C)  $ydx - xdy = 0$  (D)  $dx + xdy = 0$

Qr v kpu'k

- 1. ✗ A
- 2. ✓ B
- 3. ✗ C
- 4. ✗ D

S wgnkqp'P wo dgt 'k5: ''S wgnkqp'V{r g'kPCV

Let  $f : [1, 4] \rightarrow \mathfrak{R}$  be a continuous function such that  $f(1) = 0.32$ ,  $f(2) = 0.125$ ,  $f(3) = 0.025$

and  $f(4) = 0.05$ . The value of the integral  $\int_1^4 f(x)dx$ , accurate up to three decimal places,

obtained by Trapezoidal rule with  $n=3$  is \_\_\_\_\_

Eqtt gev' Cpuy gt 'k

0.335

Question Number : 39 Question Type : MCQ

The normal vector to the surface  $z = \sqrt{x^2 + y^2}$  at (1,1,1) is

- (A)  $\hat{i} + \hat{j} + \hat{k}$       (B)  $\hat{i} - \hat{j} + \hat{k}$       (C)  $-\hat{i} - \hat{j} + \hat{k}$       (D)  $-\hat{i} + \hat{j} + \hat{k}$

Options :

- ✘ A
- ✘ B
- ✔ C
- ✘ D

Question Number : 40 Question Type : MCQ

Consider the analytical techniques in the **Column I** and the properties in **Column II**. Choose the correct alternative from amongst A, B, C, and D

**Column I**

- P FTIR
- Q Differential scanning calorimetry
- R Density
- S Birefringence

**Column II**

- 1 Orientation
- 2 Functional groups
- 3 Crystallinity
- 4 Crystallization temperature

- (A) P-2, Q-4, R-3, S-1  
(B) P-2, Q-1, R-4, S-3  
(C) P-3, Q-4, R-1, S-2  
(D) P-3, Q-2, R-4, S-1

Options :

- ✔ A
- ✘ B
- ✘ C
- ✘ D

Question Number : 41 Question Type : MCQ

If  $T_g$ ,  $T_m$ , and  $T_c$  represent the glass transition, melting and crystallization temperature, respectively, the correct relationship is

- (A)  $T_g < T_c < T_m$   
(B)  $T_g < T_m < T_c$   
(C)  $T_c < T_g < T_m$   
(D)  $T_m < T_g < T_c$

Options :

- ✔ A
- ✘ B
- ✘ C
- ✘ D

Question Number : 42 Question Type : MCQ

The correct sequence of unit operations employed in production of viscose rayon is

- (A) Ageing - Steeping - Xanthation - Ripening
- (B) Ageing - Steeping - Ripening - Xanthation
- (C) Steeping - Ageing - Ripening - Xanthation
- (D) Steeping - Ageing - Xanthation - Ripening

Options :

- 1. ✘ A
- 2. ✘ B
- 3. ✘ C
- 4. ✔ D

Question Number : 43 Question Type : MCQ

Consider the following assertion [a] and reason [r] and choose the correct alternative from amongst A, B, C, and D.

[a] After polymerization of caprolactum, thorough washing of polymer with water is necessary to remove unreacted monomer and its oligomers.

[r] Otherwise, hydrolytic degradation of polymer would occur during melt spinning.

- (A) [a] is right and [r] is wrong
- (B) [a] is right and [r] is right
- (C) [a] is wrong and [r] is wrong
- (D) [a] is wrong and [r] is right

Options :

- 1. ✔ A
- 2. ✘ B
- 3. ✘ C
- 4. ✘ D

Question Number : 44 Question Type : MCQ

Consider the fibres in **Column I** and the applications in **Column II**. Choose the correct alternative from amongst A, B, C, and D

**Column I**

- P Acrylic
- Q Jute
- R Nylon
- S Polypropylene

**Column II**

- 1 Chemical filtration
- 2 Tire cord
- 3 Precursor for carbon fibre
- 4 Biodegradable sacks

- (A) P-1, Q-4, R-2, S-3
- (B) P-2, Q-4, R-3, S-1
- (C) P-3, Q-4, R-2, S-1
- (D) P-3, Q-4, R-1, S-2

Options :

- 1. ✘ A

2. ✘ B

3. ✔ C

4. ✘ D

Question Number : 45 Question Type : PCV

Two polyester and six viscose rayon slivers of same count are blended on a drawframe. In the second passage, four slivers from first passage are further blended with two combed cotton slivers of the same count. The viscose (%) in the final sliver to the nearest integer is \_\_\_\_\_

Equation type :

50

Question Number : 46 Question Type : MCQ

In ring spinning, the tension in yarn is the maximum

- (A) Between the lappet guide and front roller
- (B) Where the balloon radius is the maximum
- (C) In winding zone
- (D) Just below the lappet guide

Options :

1. ✘ A

2. ✘ B

3. ✔ C

4. ✘ D

Question Number : 47 Question Type : PCV

A core spun yarn of 30 tex is to be produced with 10% core by weight. If the cotton roving count is 540 tex, the required draft on the ringframe will be \_\_\_\_\_

Equation type :

20

Question Number : 48 Question Type : PCV

If the spindle speed of ringframe is 15000 rpm and the traveler speed at the maximum bobbin diameter of 50 mm is 0.8% less than that of the spindle. The yarn delivery rate (m/min), to the nearest integer, will be \_\_\_\_\_

Equation type :

Question Number : 49 Question Type : PCV

A rotor of 2 inch diameter is spinning a yarn of  $16^s$  Ne. If the twist multiplier is 5 and the fibre linear density is 0.1 tex, the average fibre flow through the transport channel, to the nearest integer, will be \_\_\_\_\_

Equation type :

3

Question Number : 50 Question Type : PCV

The groove drum in a random winder makes five revolutions for one double traverse. If the drum and package diameters are 10 cm and 5 cm, respectively, the wind per double traverse would be \_\_\_\_\_

Equation type :

10

Question Number : 51 Question Type : MCQ

A 500-end double-lift, single-cylinder jacquard has

- (A) 500 hooks and 500 needles
- (B) 500 hooks and 1000 needles
- (C) 1000 hooks and 500 needles
- (D) 1000 hooks and 1000 needles

Options :

- 1. ✘ A
- 2. ✘ B
- 3. ✔ C
- 4. ✘ D

Question Number : 52 Question Type : PCV

A shuttle loom is running at 240 picks per minute. The angular velocity of bottom shaft in radian per second is  $n\pi$ . The value of  $n$  is \_\_\_\_\_

Equation type :

4

Question Number : 53 Question Type : PCV

In an air-jet loom, if the weft yarn diameter is increased by 10%, keeping the linear density constant, the percent increase in the drag force would be \_\_\_\_\_

Equation type :

10

Question Number : 54 Question Type : PCV

For a fully relaxed knitted fabric, the wale constant ( $K_w$ ) and course constant ( $K_c$ ) are 4.2 and 5.5, respectively. If the loop length is 0.5 cm, the loop density per  $\text{cm}^2$ , to the nearest integer, would be \_\_\_\_\_

Equation type :

92

Question Number : 55 Question Type : MCQ

Consider the following assertion [a] and reason [r] and choose the correct alternative from amongst A, B, C, and D.

[a] Cross-laid needlepunched nonwoven fabrics demonstrate higher tensile strength in machine direction.

[r] In cross-laid nonwoven fabrics, the fibres are randomly oriented.

- (A) [a] is right and [r] is wrong
- (B) [a] is right and [r] is right
- (C) [a] is wrong and [r] is wrong
- (D) [a] is wrong and [r] is right

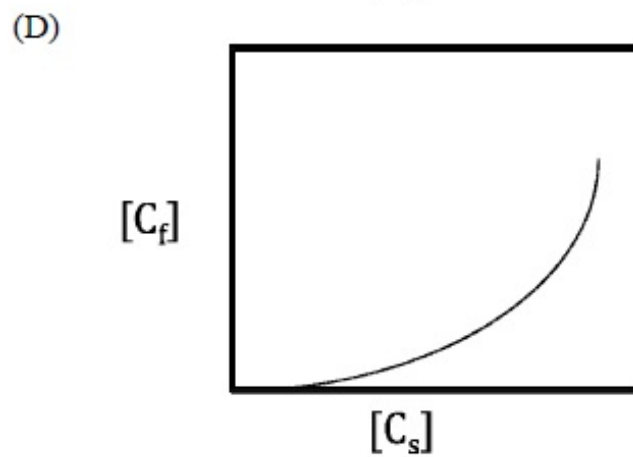
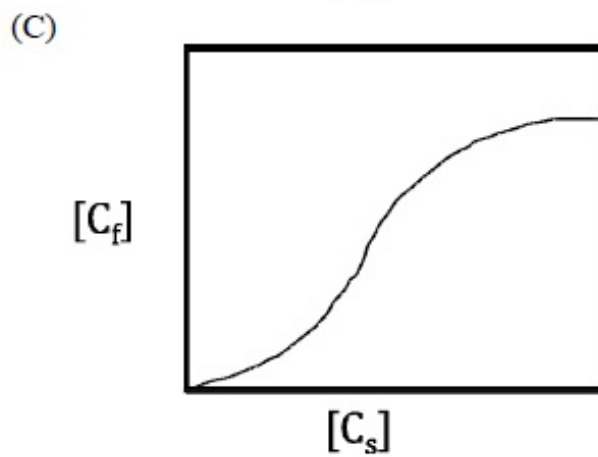
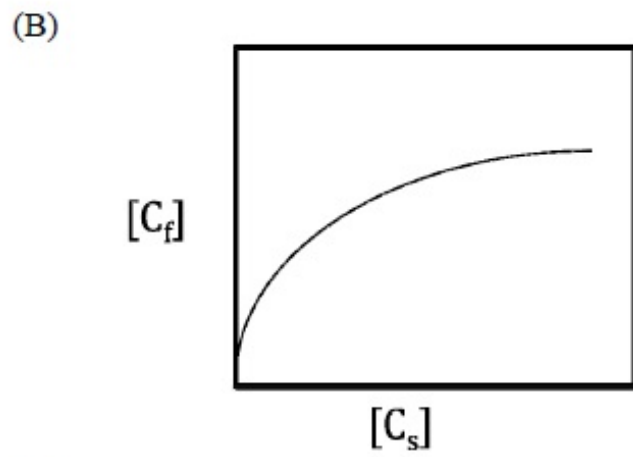
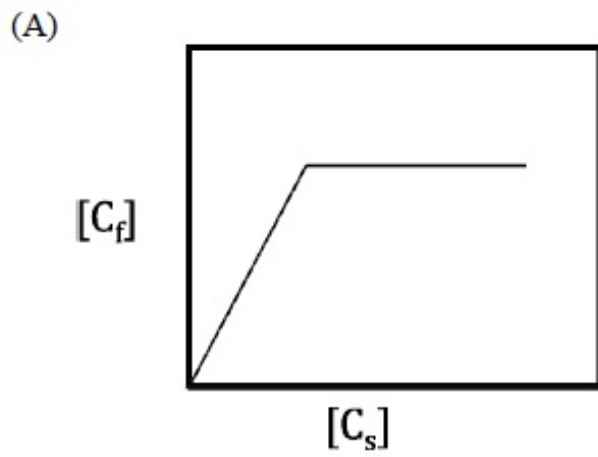
Options :

- 1. ✘ A
- 2. ✘ B
- 3. ✔ C
- 4. ✘ D

Question Number : 56 Question Type : MCQ



If  $[C_s]$  and  $[C_f]$  represent dye concentration in the bath and in the fibre, respectively, the isotherm for dyeing of polyester with disperse dyes is represented by the figure



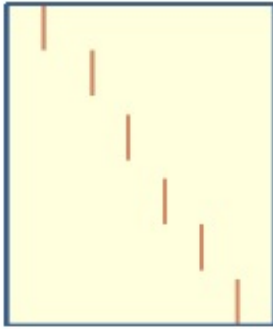
Options :

1. ✓ A
2. ✗ B
3. ✗ C
4. ✗ D

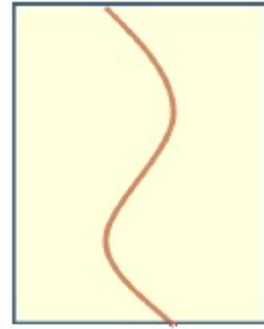
Question Number : 57 Question Type : MCQ

A small hard particle is stuck in the doctor blade of a roller printing machine. The printing fault on the fabric, as a result of this, is represented by the figure

(A)



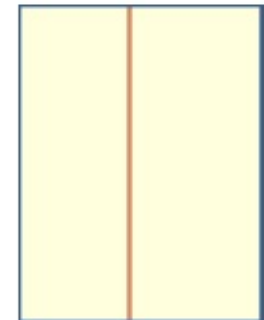
(B)



(C)



(D)



Options :

1. ✘ A
2. ✘ B
3. ✔ C
4. ✘ D

Question Number : 58 Question Type : MCQ

Consider the following assertion [a] and reason [r] and choose the correct alternative from amongst A, B, C, and D.

- [a] Millions of shades can be produced through ink-jet printing with only four basic colours.  
[r] The colours get mixed in appropriate proportions before jetting onto the fabric.

- (A) [a] is right and [r] is wrong  
(B) [a] is right and [r] is right  
(C) [a] is wrong and [r] is wrong  
(D) [a] is wrong and [r] is right

Options :

1. ✔ A
2. ✘ B
3. ✘ C
4. ✘ D

Question Number : 59 Question Type : MCQ

Consider the following assertion [a] and reason [r] and choose the correct alternative from amongst A, B, C, and D.

[a] Fluorochemicals impart very high water repellency.

[r] Fluorochemicals significantly reduce the surface energy of the treated substrate.

- (A) [a] is right and [r] is wrong
- (B) [a] is right and [r] is right
- (C) [a] is wrong and [r] is wrong
- (D) [a] is wrong and [r] is right

Options :

- 1. ✘ A
- 2. ✔ B
- 3. ✘ C
- 4. ✘ D

Question Number : 60 Question Type : MCQ

Consider the following assertion [a] and reason [r] and choose the correct alternative from amongst A, B, C, and D.

[a] In the context of foam finishing, the narrow size distribution of foam cells increases the half life of foam.

[r] The rate of coalescing and collapsing of foam cells is low in this case.

- (A) [a] is right and [r] is wrong
- (B) [a] is right and [r] is right
- (C) [a] is wrong and [r] is wrong
- (D) [a] is wrong and [r] is right

Options :

- 1. ✘ A
- 2. ✔ B
- 3. ✘ C
- 4. ✘ D

Question Number : 61 Question Type : PCV

For a typical yarn tensile test, force ( $F$ ) in Newton and elongation ( $e$ ) in cm are related as under

$$F = 2 + 4e + 3e^2$$

If the yarn fails at an elongation of 3 cm, the work of rupture in N-m, accurate up to first decimal place is \_\_\_\_\_

Equation type :

0.5

Question Number : 62 Question Type : MCQ

Choose the **INCORRECT** statement from amongst the A, B, C, and D

- (A) Crease recovery is higher for thick and dense fabric
- (B) Tear strength of fabric improves with greater float length
- (C) Strength CV of yarn does not affect the weaveability
- (D) Higher drape coefficient indicates stiffer fabric

Options :

- 1. ✘ A
- 2. ✘ B
- 3. ✔ C
- 4. ✘ D

Question Number : 63 Question Type : MCQ

The unique ability of woven fabric to drape in multiple curvatures is mainly due to

- (A) High tensile modulus
- (B) Low shear rigidity
- (C) Low compressibility
- (D) High bending rigidity

Options :

- 1. ✘ A
- 2. ✔ B
- 3. ✘ C
- 4. ✘ D

Question Number : 64 Question Type : PCV

The relationship between 50% span length of fibre ( $L_1$ ) and 2.5% span length of fibre ( $L_2$ ) for a given cotton variety is given by

$$L_1 = \frac{L_2}{2} + 5$$

If standard deviation (SD) of  $L_2$  is 4 mm, that of the  $L_1$ , in mm, would be \_\_\_\_\_

Equ t gevCpuy gt :

2

Question Number : 65 Question Type : PCV

The correlation coefficient (r) between two variables is 0.9. The unexplained variation (%) is \_\_\_\_\_

Equ t gevCpuy gt :

