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# **TSPSC PL**

**Previous Year Paper  
(Tannery)  
04 Sept, 2023 Shift 2**



# TCSiON CAE

## Notations :

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

## Question Paper Name :

PC222003TANNERYPL2220 04th September  
2023 Shift 2

## Subject Name :

PC222003 TANNERY PL2220

## Actual Answer Key :

Yes

## Calculator :

None

## Magnifying Glass Required? :

No

## Ruler Required? :

No

## Eraser Required? :

No

## Scratch Pad Required? :

No

## Rough Sketch/Notepad Required? :

No

## Protractor Required? :

No

## Show Watermark on Console? :

Yes

## Highlighter :

No

## Auto Save on Console?

Yes

## Change Font Color :

No

## Change Background Color :

No

## Change Theme :

No

## Help Button :

No

## Show Reports :

No

## Show Progress Bar :

No

## Is this Group for Examiner? :

No

## Examiner permission :

Cant View

Show Progress Bar? : No

## TANNERY

Section type : Online

Enable Mark as Answered Mark for Review and Yes

Clear Response :

Maximum Instruction Time : 0

Is Section Default? : null

Question Number : 1 Question Id : 630680343818 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In the context of nature of hides and skins, the outer portion of skins is called \_\_\_\_\_.

Options :

1.  Adipose tissue

2.  Corium

3.  Derma

4.  Epidermis

Question Number : 2 Question Id : 630680343819 Is Question Mandatory : No Calculator :

None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Wrong Marks : 0

In the context of hierarchy of collagen structure, \_\_\_\_\_ of the amino acid residues in collagen are glycine.

Options :

1. ✘ one-tenth

2. ✘ half

3. ✓ one-third

4. ✘ one-sixth

**Question Number : 3 Question Id : 630680343820 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

'Patches containing innumerable pin holes are found are the butt of many hides'.

The statement given above represents which defect of hides?

**Options :**

1. ✓ Goad marks

2. ✘ Burns

3. ✘ Sore marks

4. ✘ Rub marks

**Question Number : 4 Question Id : 630680343821 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

'Diffusion of uncombined materials from the interior of the leather to the outer surfaces, where they may contaminate other materials or spoil the appearance of the leather'.

The statement given above represents which principle involved in the physical testing of leathers?

**Options :**

1.  Bleeding
2.  Tackiness
3.  Water absorption
4.  Tensile strength

**Question Number : 5 Question Id : 630680343822 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of manufacture of Harness, Saddlery, Belting and Bag leather, Hides are usually limed for how many days?

**Options :**

1.  12
2.  56
3.  72
4.  108

**Question Number : 6 Question Id : 630680343823 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of 'pickling' pre tanning process, to avoid acid swelling the concentration of sodium chloride in the whole of the available solution (added water + water carried over from the previous step + water within the pelt) \_\_\_\_\_.

**Options :**

1. ✗ should be 0.25 molar
2. ✗ should be 0.60 molar
3. ✗ should be 0.85 molar
4. ✓ should not be less than 1.0 molar

**Question Number : 7 Question Id : 630680343824 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In human foot, how many sesamoid bones are present below the head of first metatarsal?

**Options :**

1. ✗ 9
2. ✓ 2
3. ✗ 11
4. ✗ 6

**Question Number : 8 Question Id : 630680343825 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In human foot, phalanges are how many short bones, forming the toe and fingers?

**Options :**

1. ✗ 28

2. ✗ 3

3. ✓ 14

4. ✗ 7

**Question Number : 9 Question Id : 630680343826 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the standard last length for size 8 Last?

**Options :**

1. ✗ 132.8



2. ✓ 279.4

3. ✗ 236.4

4. ✗ 332.6

**Question Number : 10 Question Id : 630680343827 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of shoe designing, \_\_\_\_\_ of pattern is a pattern making technique, by which patterns are raised or dropped from the center/folding axis.

**Options :**

1.  Springing

2.  Grading

3.  Flattening

4.  Lasting

**Question Number : 11 Question Id : 630680343828 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which process of shoe manufacturing is also known as clicking?

**Options :**

1.  Lasting

2.  Cutting

3.  Closing

4.  Designing

**Question Number : 12 Question Id : 630680343829 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

\_\_\_\_\_ is a shoe construction method in which the ribbed insole is used.

**Options :**

1.  Goodyear welted

2.  Strobel

3.  Stuck-on construction

4.  Moccasins

**Question Number : 13 Question Id : 630680343830 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Shank is a piece of metal which strengthen the part of the insole under foot arch. Shanks are of varying length from 80 – 120 mm with a difference of \_\_\_\_\_ between the sizes.

**Options :**

1.  1 mm



2.  5 mm

3.  15 mm

4.  10 mm

**Question Number : 14 Question Id : 630680343831 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Metal/Plastic strip attached at end of a shoelace is called \_\_\_\_\_.

**Options :**

1. ✘ Sole

2. ✘ Masonite

3. ✓ Aglet

4. ✘ Eyelet

**Question Number : 15 Question Id : 630680343832 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which movement from the ankle joints of the human foot is also termed as medial rotation?

**Options :**

1. ✘ External rotation

2. ✓ Internal rotation

3. ✘ Plantar flexion

4. ✘ Supination

**Question Number : 16 Question Id : 630680343833 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the tannin content of Hydrolysable vegetable tannin obtained from the woods of chestnut plant?

**Options :**

1. ✓ 5 percent - 15 percent

2. ✗ 60 percent - 80 percent

3. ✗ 30 percent - 45 percent

4. ✗ 85 percent - 90 percent

**Question Number : 17 Question Id : 630680343834 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Chromium (III) is a \_\_\_\_\_ element.

**Options :**

1. ✗  $3d^44s^6$

2. ✗  $3d^44s^8$

3. ✗  $3d^64r^2$

4. ✓  $3d^44s^2$

**Question Number : 18 Question Id : 630680343835 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the coordination number of Titanium (IV)?

**Options :**

1. ✘ 4

2. ✘ 5

3. ✘ 8

4. ✓ 6

**Question Number : 19 Question Id : 630680343836 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The objective of Neutralising is only to remove the harmful acidity and by harmful acidity it is meant that the pH of the leather is

\_\_\_\_\_.

**Options :**

1. ✘ between 5.5 and 6.0

2. ✓ below 3.3

3. ✘ between 7.5 and 8.0

4. ✘ above 11

**Question Number : 20 Question Id : 630680343837 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the Annual report of 2022-2023 by Industries and Commerce Department, Govt. of Telangana, India, Telangana State Leather Industries Promotion Corporation Limited has signed an agreement with Central Leather Research Institute, Chennai for development of 6 mini leather parks under PPP model. What is the land in acres of 'Jinkunta' one of these mini leather park?

**Options :**

1. ✗ 40

2. ✗ 50

3. ✗ 7

4. ✓ 25

**Question Number : 21 Question Id : 630680343838 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

FMEA is an analytical technique that combines the technology and experience of people in identifying foreseeable failure modes of a product or a process and planning for its elimination. What is the full form of FMEA?

**Options :**

1. ✓ Failure Mode and Effect Analysis

2. ✗ Fast Mode and Effect Analysis

3. ✗ Failure Matter and Effect Analysis

4. ✗ Fast Matter and Effect Analysis

**Question Number : 22 Question Id : 630680343839 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

'TQM has to be introduced and led by the top management'. Statement given above talks about which principle of TQM?

**Options :**

1.  Leadership
2.  Customer driven quality
3.  Fast response
4.  Continuous process improvement

**Question Number : 23 Question Id : 630680343840 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As on April-March 2021-2022, what is the value (in million US dollars) of India's export of finished leather?

**Options :**

1.  378.23
2.  456.10
3.  2047.08
4.  276.10

**Question Number : 24 Question Id : 630680343841 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of characteristics of Tannery Effluents, what is the total chromium content in the 'Pickling and Chrome Tanning'?

**Options :**

1.  1500 – 3000 mg/L

2.  80 – 100 mg/L

3.  30 – 60 mg/L

4.  120 – 150 mg/L

**Question Number : 25 Question Id : 630680343842 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

ISO 9000 : 2015 contains how many quality management principles supporting the fundamental concepts described in it?

**Options :**

1.  7

2.  18

3.  11

4.  3

**Question Number : 26 Question Id : 630680343843 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

ISI specification for leather for cricket and hockey ball is \_\_\_\_\_.

**Options :**

1.  IS: 416 – 1963

2.  IS: 428 – 1968

3.  IS: 502 – 1967

4.  IS: 514 – 1969

**Question Number : 27 Question Id : 630680343844 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of Football (Leather), the duration of liming is about \_\_\_\_\_.

**Options :**

1.  40 – 48 hours

2.  1 – 2 hours

3.  96 – 100 hours

4.  120 – 130 hours

**Question Number : 28 Question Id : 630680343845 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of manufacture of Morocco leather for upholstery work, the drenched goat skins are handled in an old mellow liquor for \_\_\_\_\_ and then taken over to stronger and fresher liquors.

**Options :**

1.  2 to 3 days
2.  46 to 50 days
3.  24 to 30 days
4.  100 to 200 days

**Question Number : 29 Question Id : 630680343846 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of sulfated fatliquors, for sulfating the oil must be unsaturated with a minimum iodine value of \_\_\_\_\_.

**Options :**

1.  120
2.  360
3.  200
4.  70

**Question Number : 30 Question Id : 630680343847 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Outer longitudinal arch of the human foot is made up of which metatarsal bones?

**Options :**

1.  Only first
2.  Second and third both
3.  First and second both
4.  Fourth and fifth both

**Question Number : 31 Question Id : 630680343848 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

DIP is one of the joints in the human foot. What does 'IP' stand for in DIP?

**Options :**

1.  Interphalangeal
2.  Interproximal
3.  Invert phalangeal
4.  Invert proximal

**Question Number : 32 Question Id : 630680343849 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Mondo point sizing system is based on CGS system. What is the full form of CGS?

**Options :**

1.  Centurion Gram Second
2.  Centimeter Gram Shape
3.  Centurion Gram Shape
4.  Centimeter Gram Second

**Question Number : 33 Question Id : 630680343850 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the main operational parameters important to understanding Biological (Secondary) treatment of tannery effluents, Hydraulic retention time (T) is expressed as \_\_\_\_.

(Where, V is the aeration tank Volume ( $m^3$ ) and Q is the volume of treated effluent ( $m^3/day$ )

**Options :**

1.   $(V/Q) \times 24$
2.   $(Q/V) \times 24$
3.   $V \times Q \times 24$
4.   $(V \times Q)/24$

**Question Number : 34 Question Id : 630680343851 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which fabric used in making footwear is also known as 'Artificial silk'?

**Options :**

1.  Silk

2.  Jute

3.  Rayon

4.  Nylon

**Question Number : 35 Question Id : 630680343852 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Many shoe uppers consists of weaved vamp. Twill weave, threads are interlaced in a \_\_\_\_\_ ratio.

**Options :**

1.  5 : 2

2.  2 : 2

3.  4 : 1

4.  3 : 7

**Question Number : 36 Question Id : 630680343853 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the machine lasting process of footwear manufacturing, \_\_\_\_\_ is done with the emery paper to rough up to the edge surface of lasted upper and it is necessary for the adhesive penetration up to the edges.

**Options :**

1.  Toe lasting

2.  Pounding

3.  Roughing

4.  Scouring

**Question Number : 37 Question Id : 630680343854 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the value (in million US dollar) of India's export of Saddlery and Harness as of April – March 2021 – 2022?

**Options :**

1.  276.10

2.  1287.06

3.  456.10

4. ✘ 2047.08

**Question Number : 38 Question Id : 630680343855 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which test is used to test whether leathers at elevated temperatures stain other materials?

**Options :**

1. ✘ Bleeding

2. ✓ Staining

3. ✘ Tackiness

4. ✘ Water Penetration

**Question Number : 39 Question Id : 630680343856 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following soaking enzymes is essentially diluted bathing enzymes?

**Options :**

1. ✘ Lipases

2. ✘ Amylases

3. ✓ Proteases

4. ❌ Chondroitinases

**Question Number : 40 Question Id : 630680343857 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the physical requirements of Glazed kid leather Indian Standards, what is the minimum tongue tear resistance required?

**Options :**

1. ✓ 30 kg/cm

2. ❌ 86 kg/cm

3. ❌ 110 kg/cm

4. ❌ 134 kg/cm

**Question Number : 41 Question Id : 630680343858 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the chemical requirements of Glazed kid leather Indian standards, what is the minimum pH value of water soluble?

**Options :**

1. ✓ 3.5

2. ❌ 7

3. ❌ 10

4. ✘ 9

**Question Number : 42 Question Id : 630680343859 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the importance of amino acid 'Glycine' in leather making?

**Options :**

1. ✘ Unhairing

2. ✘ Mineral tanning

3. ✘ Dyeing

4. ✓ Collagen structure

**Question Number : 43 Question Id : 630680343860 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Collagen is a generic name for a family of atleast \_\_\_\_\_ distinct collagen types.

**Options :**

1. ✓ 28

2. ✘ 2

3. ✘ 5

4. ✘ 10

**Question Number : 44 Question Id : 630680343861 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of the triple helix structure of collagen, in type I collagen, the monomeric molecule, procollagen contains how many chains?

**Options :**

1. ✓ Three

2. ✘ Eight

3. ✘ Nine

4. ✘ Ten

**Question Number : 45 Question Id : 630680343862 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of triple helix structure of collagen, at the each end of triple helices there are regions that are not helical, consisting of about 20 amino acids, are called the \_\_\_\_\_.

**Options :**

1. ✘ holopeptide regions

2. ✓ telopeptide regions

3. ✘ monopeptide regions

4. ✘ polypeptide regions

**Question Number : 46 Question Id : 630680343863 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

\_\_\_\_\_ are small holes found in cattle hide, specially on either side of the spinal line.

**Options :**

1. ✘ Goad marks

2. ✘ Brand marks

3. ✓ Warble holes

4. ✘ Sore marks

**Question Number : 47 Question Id : 630680343864 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which method of secondary treatment of tannery effluents is used where sufficient land is available for providing the treatment unit and disposal?

**Options :**

1. ✘ Aerated Lagoon

2. ✓ Anaerobic Lagoon

3. ✘ Oxidation ditch

4. ✘ Unhairing

**Question Number : 48 Question Id : 630680343865 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per BIS standard related to leather garment industry and related items, which of the following standard is related to FUR Leather?

**Options :**

1. ✓ IS 3840/2961

2. ✘ IS 8894/3184/4829

3. ✘ IS 12718

4. ✘ IS 10397

**Question Number : 49 Question Id : 630680343866 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per BIS \_\_\_\_\_ is the standard related to threads in the context of standards related to leather garments industry and related items.

**Options :**

1. ✓ IS 1376/1803

2. ✘ IS 10397

3. ✘ IS 9686

4. ✘ IS 12718

**Question Number : 50 Question Id : 630680343867 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the value (in million US dollar) of India's export of leather garments as of April - March 2021 - 2022?

**Options :**

1. ✓ 342.38

2. ✘ 456.10

3. ✘ 214.11

4. ✘ 2047.08

**Question Number : 51 Question Id : 630680343868 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the 20th Livestock Census 2019 (Provisional), population (in thousands) of which of the following is largest among the given options in Telangana state?

**Options :**

1. ✘ Donkeys

2. ✓ Sheep

3. ✘ Buffaloes

4. ✘ Cattle

**Question Number : 52 Question Id : 630680343869 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the 20th Livestock Census – 2019 (Provisional), population of which of the following is the lowest among the given options in the Telangana state?

**Options :**

1. ✘ Cattle

2. ✘ Goat

3. ✓ Camel

4. ✘ Pig

**Question Number : 53 Question Id : 630680343870 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

\_\_\_\_\_ is the electronic configuration of Aluminium (III).

**Options :**

1. ✓ [Ne]

2. ✘ [Kr] 4d°

3. ✘ [A]  $3d^0$

4. ✘ [A]  $3d^3$

**Question Number : 54 Question Id : 630680343871 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

\_\_\_\_\_ is the metal oxide of Aluminium (III).

**Options :**

1. ✓  $Al_2O_3$

2. ✘  $Al_3O_3$

3. ✘  $Al_2O_2$

4. ✘  $Al_3O_2$

**Question Number : 55 Question Id : 630680343872 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the hydration number by conductivity of Aluminium (III)?

**Options :**

1. ✘ 12

2. ✘ 9

3. ✘ 8

4. ✓ 11

**Question Number : 56 Question Id : 630680343873 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The smaller group within the hydrolysable vegetable tannins, i.e. less common polyphenol, is the \_\_\_\_.

**Options :**

1. ✓ Gallotannins

2. ✘ Ellagitannins

3. ✘ Condensed tannins

4. ✘ Catechol tannins

**Question Number : 57 Question Id : 630680343874 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

\_\_\_\_ is a homogeneous chemical formulation with 16 – 18 percent  $\text{Cr}_2\text{O}_3$ , is essentially an organo-chromium complex wherein the polymeric backbone is built up without using formaldehyde.

**Options :**

1. ✓ Formaldehyde free chrome syntan

2. ✘ Aluminium based syntan

- 3. ✘ Acrylic syntan
- 4. ✘ Zirconium tanning agent

**Question Number : 58 Question Id : 630680343875 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the process time of counter molding machine used in footwear manufacturing?

**Options :**

- 1. ✘ 60 to 70 seconds
- 2. ✘ 140 to 160 seconds
- 3. ✘ 90 to 100 seconds
- 4. ✓ 12 to 15 seconds

**Question Number : 59 Question Id : 630680343876 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which dyes are sodium salts for dyes?

**Options :**

- 1. ✓ Acid dyes
- 2. ✘ Basic dyes

3. ✘ Direct dyes

4. ✘ Chrome mordant dyes

**Question Number : 60 Question Id : 630680343877 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The most important variety of leather from goats skins is \_\_\_\_\_.

**Options :**

1. ✓ Glazed kid

2. ✘ Morocco leather

3. ✘ Calf leather

4. ✘ Waxed calf

**Question Number : 61 Question Id : 630680343878 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is NOT a correct difference between leather from sheep skin and goat skin?

**Options :**

1. ✘ The texture of sheep pelt is flimsier than goat pelt

2. ✘ The strength of sheep pelt is weaker than goat pelt

3. ✗ Leather made from sheep skins are less durable

4. ✓ Sheep skin are expensive than goat skins

**Question Number : 62 Question Id : 630680343879 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the name given to the tanned East India Goat and sheep skins?

**Options :**

1. ✓ Persians

2. ✗ Skiver

3. ✗ Roans

4. ✗ Basils

**Question Number : 63 Question Id : 630680343880 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is not an application of vegetable tanning?

**Options :**

1. ✗ Harness leather

2. ✗ Upholstery leather

3. ✘ Bulk of sole, belting

4. ✓ Metal equipments

**Question Number : 64 Question Id : 630680343881 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Aldehyde tannage involves treatment with \_\_\_\_\_.

**Options :**

1. ✘ Alcohol

2. ✘ Water

3. ✓ Fromaldehyde

4. ✘ Hydrochloric acid

**Question Number : 65 Question Id : 630680343882 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The tannage which involves combining of two or more different tannages is known as \_\_\_\_\_.

**Options :**

1. ✓ Combination tannage

2. ✘ Oil tannage

3. ✘ Aldehyde tannage

4. ✘ Vegetable tannage

**Question Number : 66 Question Id : 630680343883 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is NOT an objective of Deliming?

**Options :**

1. ✘ Removal of lime

2. ✘ Lossening of scud

3. ✘ Total or partial removal of elastic fibres

4. ✓ Swelling and plumping of the pelt

**Question Number : 67 Question Id : 630680343884 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The chrome tanning with stock chrome liquor is usually completed in \_\_\_\_\_ for cow hides of ordinary size.

**Options :**

1. ✘ 2 – 4 hours

2. ✘ 5 – 6 hours

3. ✓ 6 – 8 hours

4. ✗ 15 – 20 hours

**Question Number : 68 Question Id : 630680343885 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The dyes that require the use of bichromate as a mordant are known as \_\_\_\_\_.

**Options :**

1. ✗ Direct dyes

2. ✓ Chrome mordant dyes

3. ✗ Basic dyes

4. ✗ Acid dyes

**Question Number : 69 Question Id : 630680343886 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is a dye considered harmful and now banned?

**Options :**

1. ✓ 22 arylamine based dyes

2. ✗ Vegetable dyes

3. ✘ Direct dyes

4. ✘ Basic dyes

**Question Number : 70 Question Id : 630680343887 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The absorbance of visible light is measured by \_\_\_\_\_.

**Options :**

1. ✓ Spectrophotometry

2. ✘ Colorimeter

3. ✘ Potentionmetry

4. ✘ Chromatography

**Question Number : 71 Question Id : 630680343888 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Instrument used for measuring absorbance of colour solution in the visible range (400 – 70 nm) is known as \_\_\_\_\_.

**Options :**

1. ✓ Calorimeter

2. ✘ Spirometer

3. ✳ Colorimeter

4. ✳ Potentiometer

**Question Number : 72 Question Id : 630680343889 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What is the correct quantification of quality under TQM?

(Q = quality, P = performance, E = expectations)

**Options :**

1. ✓ 
$$Q = \frac{P}{E}$$

2. ✳ 
$$Q = PE$$

3. ✳ 
$$Q = P + E$$

4. ✳ 
$$Q = P - E$$

**Question Number : 73 Question Id : 630680343890 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following is NOT a barrier to TQM implementation?

**Options :**

1. ✳ Lack of formal strategy

2. ✘ Failure to provide incentive by recognition

3. ✓ Good effective communication

4. ✘ Narrowly based training

**Question Number : 74 Question Id : 630680343891 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

ISO 9000 is based on the fundamental concept and principles of \_\_\_\_\_.

**Options :**

1. ✓ Quality management

2. ✘ Trade management

3. ✘ Fire management

4. ✘ Price management



**Question Number : 75 Question Id : 630680343892 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

The specification of environmental management systems is included under \_\_\_\_\_.

**Options :**

1. ✓ ISO 14000

2. ✘ ISO 750

3. ✘ ISO 9000

4. ✘ ISO 1250

**Question Number : 76 Question Id : 630680343893 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Vacuum salt is a type of salt used in preservation of Hides and skins. Which of the following statement is correct regarding the Vacuum salt?

I. It is most commonly used as a reagent in leather making e.g. for making brine solution.

II. Its crystal size is more than 4 mm.

**Options :**

1. ✓ Only I

2. ✘ Only II

3. ✘ Both I and II

4. ✘ Neither I nor II

**Question Number : 77 Question Id : 630680343894 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the curing of hides and skins by drying?

- I. Hides cured in this way are known as framed hides.
- II. This method is used mostly in Bihar.

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✓ Both I and II
- 4. ✘ Neither I nor II

**Question Number : 78 Question Id : 630680343895 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding pH in the 'Liming' a pre-tanning process?

- I. A reduction of one pH unit means a tenfold decrease in hydroxyl ion concentration.
- II. At higher pH, the liming rate is faster, but the danger of over-swelling is greater.

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✓ Both I and II
- 4. ✘ Neither I nor II

**Question Number : 79 Question Id : 630680343896 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of edge treatments, the edge setting operation may be performed in which of the following ways?

I. By rotary wheel

II. By hand

**Options :**

1.  Only I

2.  Only II

3.  Both I and II

4.  Neither I nor II

**Question Number : 80 Question Id : 630680343897 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Grading is a part of the process of shoe designing. Center grading applies to which of the following?

I. Top lines

II. Vamp front lines

**Options :**

1.  Only I

2.  Only II

3.

✓ Both I and II

4. ✘ Neither I nor II

**Question Number : 81 Question Id : 630680343898 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Acid dyes?

I. Acid dyes are the sodium salts for dyes

II. Acid dyes have good affinity towards chrome leather

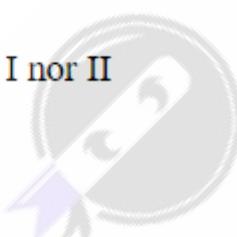
**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✓ Both I and II

4. ✘ Neither I nor II



**Question Number : 82 Question Id : 630680343899 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Basic dyes?

I. They are converted into hydrochlorides or sulphates

II. They have a strong cationic effect

**Options :**

1. ✘ Only I
2. ✘ Only II
3. ✓ Both I and II
4. ✘ Neither I nor II

**Question Number : 83 Question Id : 630680343900 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Titanium Tanning?

- I. The weak chemical interaction with collagen results in shrinkage temperature of 75 – 80°C.
- II. The resultant leather is initially colourless, although it tends to go pale yellow on ageing, owing to the creation of charge transfer bonding.

**Options :**

1. ✘ Only I
2. ✘ Only II
3. ✓ Both I and II
4. ✘ Neither I nor II

**Question Number : 84 Question Id : 630680343901 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In which of the following application, formaldehyde has long held a place in leather making technology?

- I. Non-mineral tannages e.g. woolskins for nursing purposes.
- II. Applications where high prespiration resistance is required e.g. gloving leather.

**Options :**

- 1.  Only I
- 2.  Only II
- 3.  Both I and II
- 4.  Neither I nor II

**Question Number : 85 Question Id : 630680343902 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the Annual report of 2022-2023 by Industries and Commerce Department, Govt. of Telangana, India, which of the following are the objectives of Telangana state Leather Industries Promotion Corporation Limited (TSLIPC)?

- I. Promotion of leather industry in Telangana state.
- II. Skill upgradation/training program to SC Leather artisans and unemployed youth.

**Options :**

- 1.  Only I
- 2.  Only II
- 3.  Both I and II

4. ✘ Neither I nor II

**Question Number : 86 Question Id : 630680343903 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the basic assumptions of Total Quality Control approach?

- I. People completing a series of related tasks have interdependent roles in the organisation.
- II. All related tasks are grouped through a process to achieve the pre-determined outcome.

**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✓ Both I and II

4. ✘ Neither I nor II

**Question Number : 87 Question Id : 630680343904 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the process of manufacture of Upholstery leather?

- I. Unhairing is done by machine
- II. 0.5 percent weak pancreatic bate at 35°C for 1 hour

**Options :**

1. ✘ Only I

2. ✘ Only II
3. ✓ Both I and II
4. ✘ Neither I nor II

**Question Number : 88 Question Id : 630680343905 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In comparison to sulfated oils, which of the following properties are exhibited by the sulfited oils?

- I. No charring or darkening
- II. Higher emulsion stability to acids, hard water salts, metal ions

**Options :**

1. ✘ Only I
2. ✘ Only II
3. ✓ Both I and II
4. ✘ Neither I nor II

**Question Number : 89 Question Id : 630680343906 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the methods of leather drying other than the pasting?

- I. Hanging on stationary hooks or poles
- II. Tacking on boards

**Options :**

- 1. ✳ Only I
- 2. ✳ Only II
- 3. ✓ Both I and II
- 4. ✳ Neither I nor II

**Question Number : 90 Question Id : 630680343907 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding Protein Binder ‘casein’?

- I. Casein should be free from mineral acid and fatty matter
- II. The viscosity of casein solution is dependent on many factors

**Options :**

- 1. ✳ Only I
- 2. ✳ Only II
- 3. ✓ Both I and II
- 4. ✳ Neither I nor II

**Question Number : 91 Question Id : 630680343908 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the advantages of vegetable dyes?

- I. Harmonising colours
- II. Possibility of rare colour ideas

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✓ Both I and II
- 4. ✘ Neither I nor II

**Question Number : 92 Question Id : 630680343909 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Ritz size stick is used to measure what?

- I. Foot width
- II. Foot length

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II
- 3.

✓ Both I and II

4. ✘ Neither I nor II

**Question Number : 93 Question Id : 630680343910 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

What are the advantages of Ion exchange chromatography?

I. Used for the separation of lanthanides and actinides

II. Used in the separation of inorganic ions in mixture

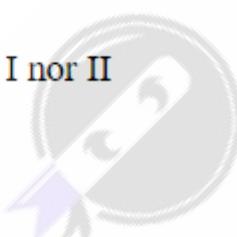
**Options :**

1. ✘ Only I

2. ✘ Only II

3. ✓ Both I and II

4. ✘ Neither I nor II



**Question Number : 94 Question Id : 630680343911 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Direct potentiometry?

I. Utilization of the single measurement of potential

II. Nermst equation is used to relate cell potential to concentration of analyte

**Options :**

1. ✘ Only I
2. ✘ Only II
3. ✓ Both I and II
4. ✘ Neither I nor II

**Question Number : 95 Question Id : 630680343912 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Resins?

- I. The resin species have low astringency
- II. The resin do not function in combination reactions, due to the limited reactivity they posses

**Options :**

1. ✘ Only I
2. ✘ Only II
3. ✓ Both I and II
4. ✘ Neither I nor II

**Question Number : 96 Question Id : 630680343913 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Glutaraldehyde?

- I. The leather tanned with Glutaraldehyde is plump and hydrophilic
- II. Its colour is a distinct yellow cast, which can appear quite orange

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✓ Both I and II
- 4. ✘ Neither I nor II

**Question Number : 97 Question Id : 630680343914 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Acrylic Syntans?

- I. It is used as retanning material for chrome tanned leather
- II. Leathers treated with acrylic syntan have good buffering characteristics

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✓ Both I and II
- 4. ✘ Neither I nor II

**Question Number : 98 Question Id : 630680343915 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Pyrogallol group of vegetable tannins?

- I. They contain very low acidity
- II. They usually give yellow to tan brown colour
- III. Sumac is one of the pyrogallol tannin

**Options :**

1. ✘ Only I and II

2. ✓ Only II and III

3. ✘ Only I and III

4. ✘ I, II and III

**Question Number : 99 Question Id : 630680343916 Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the functions of deliming step of pre-tanning process?

- I. Lowering the pH, in preparation for bating
- II. Removing the lime
- III. Depleting the pelt, partially reversing the swelling

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✘ Only I and III

4. ✓ I, II and III

**Question Number : 100 Question Id : 630680343917 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Nylon is one of the fabric used in making the footwear. Which of the following statement is NOT correct regarding the Nylon?

I. It has a poor elasticity

II. It has a good strength and abrasion resistance

III. Nylon filaments are smooth but not shiny

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✓ Only II

4. ✘ I, II and III

**Question Number : 101 Question Id : 630680343918 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following properties of hydrolysable tannins can be discerned from their structures?

- I. They are highly astringent, due to large number of phenolic hydroxyls group so close together
- II. Reaction with collagen is exclusively via hydrogen bonding
- III. The shrinkage temperature conferred by these tannins is 175 – 180°C

**Options :**

1.  Only I and II

2.  Only II and III

3.  Only I and III

4.  I, II and III

**Question Number : 102 Question Id : 630680343919 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Replacement syntans?

- I. These are usually weakly acidic and are sensitive to acid and salt
- II. These consist of a dispersion of highly condensed high molecular compounds in a suitable medium
- III. The tanning action mainly depends on the phenolic groups for reaction with collagen

**Options :**

1.  Only I and II

2.  Only II and III

3.  Only I and III

4.  I, II and III

**Question Number : 103 Question Id : 630680343920 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the principles of Total Quality Management?

- I. Customer driven quality
- II. Fast response
- III. Employee involvement

**Options :**

1.  Only I and II

2.  Only II and III

3.  Only I and III

4.  I, II and III

**Question Number : 104 Question Id : 630680343921 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the processes of manufacture of chrome sole leather?

- I. Chrome sole leather is always dried out by tacking on board
- II. For tanning purpose, it is not necessary to take the hides out of the pickle solution
- III. The dry-salted Bengal hides are thin and small and suitable only for making light soles.

**Options :**

1.

- ✖ Only I and II

2. ✖ Only II and III

3. ✖ Only I and III

4. ✓ I, II and III

**Question Number : 105 Question Id : 630680343922 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following points doesn't apply to the cationic fatliquor?

- I. High affinity for cationic charged leathers
- II. Low affinity for anionic charged leathers
- III. Unstable to alkali

**Options :**

1. ✓ Only I and II

2. ✖ Only II and III

3. ✖ Only I and III

4. ✖ I, II and III

**Question Number : 106 Question Id : 630680343923 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the constituents of Cellulose Lacquers?

I. Nitrocellulose

II. Gums

III. Plasticisers

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✘ Only I and III

4. ✓ I, II and III

**Question Number : 107 Question Id : 630680343924 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are types of dyes?

I. Acid dyes

II. Basic dyes

III. Direct dyes

IV. Chrome Mordant dyes

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✘ Only III and IV

4. ✓ I, II, III and IV

**Question Number : 108 Question Id : 630680343925 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Most of the fabrics in footwear are coated with the Polyurethane (PU). Which of the following is the characteristic of PU?

- I. It is a very hard material
- II. It has high heat resistance
- III. It has sufficient plasticity and elasticity for lasting

**Options :**

1. ✓ Only I and II

2. ✘ Only II and III

3. ✘ Only I and III

4. ✘ I, II and III

**Question Number : 109 Question Id : 630680343926 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following are the safety precautions during the hand cutting operation in footwear manufacturing?

- I. Never try to catch a falling knife
- II. Always put the cutting knife in a cover
- III. Keep the unused leather on leather horse

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✘ Only I and III

4. ✓ I, II and III

**Question Number : 110 Question Id : 630680343927 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Zirconium tanning agent (Organozir)?

- I. It can withstand precipitation of pH 5 to 6
- II. It can be used as self tanning agent as well as in combination with chromium
- III. It is essentially based on a polymeric network carrying suitable liganding sites to increase chrome fixation when used in combination with basic chromium (III) sulfate

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✘ Only I and III

4.  I, II and III

**Question Number : 111 Question Id : 630680343928 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the Acrylic soft binder?

- I. It has been in use in leather finishing formulation especially for soft upper leathers
- II. It forms a soft, firmly adhering and stretchy film on leather with good fastness properties
- III. It does not load the grain, thereby retaining the natural look and feel of leather

**Options :**

1.  Only I and II

2.  Only II and III

3.  Only I and III

4.  I, II and III



**Question Number : 112 Question Id : 630680343929 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding the 'Water' a deliming agent?

- I. One of the mechanism by which continued washing with water will lower the pH is merely diluting the hydroxyl content, with the surface acting as a semi permeable membrane
- II. One of the mechanism by which continued washing with water will lower the pH is neutralising the hydroxyl with the bicarbonate content in the water, with surface acting as a semi permeable membrane
- III. The slow effect of diffusion will contribute to the need for more water

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✘ Only I and III

4. ✓ I, II and III

**Question Number : 113 Question Id : 630680343930 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following statement is correct regarding 'Carbon Dioxide' used as a deliming agent?

- I. This gas is sparingly soluble in water
- II. The application of  $\text{CO}_2$  deliming is simple : the gas is stored under pressure in liquid form and is led by pipe through the hollow axle of the drum
- III. In industrial processing, it is important to lead the gas from the storage vessel through a small heater

**Options :**

1. ✘ Only I and II

2. ✘ Only II and III

3. ✘ Only I and III

4. ✓ I, II and III

**Question Number : 114 Question Id : 630680343931 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match the following in the context of parts of human foot.

Parts of Heel	Description
I. Heel base	1.Top portion of the heel
II. Heel breast	2.Bottom most material of the heel
III. Top piece	3.Front face of the heel

**Options :**

1. ✓ I-1, II-3, III-2

2. ✘ I-3, II-1, III-2

3. ✘ I-1, II-2, III-3

4. ✘ I-3, II-2, III-1

**Question Number : 115 Question Id : 630680343932 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match the following in the context of parts of Heel.

Parts of the foot	Description
I. Forefoot	1. Anterior part of foot, comprised of 14 phalanges and 5 metatarsal bones
II. Midfoot	2. Forms the heel and ankle and is composed of talus and calcaneus bones of tarsal group
III. Hindfoot	3. Forms the foot arch and serves as shock absorber

**Options :**

1. ✘ I-2, II-1, III-3

2. ✘ I-2, II-3, III-1

3. ✓ I-1, II-3, III-2

4. ✘ I-1, II-2, III-3

**Question Number : 116 Question Id : 630680343933 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match the following in the context of main operational parameters important to understanding the Biological (secondary) treatment of tannery effluents.

Parameters	Description
I. Total influent volume (Q)	1. Volume of treated effluent ( $m^3/day$ )
II. Tank volume (V)	2. Total BOD <sub>5</sub> applied (kg/day)
III. Organic Loading (F)	3. Aeration tank volume ( $m^3$ )

**Options :**

1. ✘ I-1, II-2, III-3

2. ✘ I-2, II-1, III-3

3. ✓ I-1, II-3, III-2

4. ✗ I-2, II-3, III-1

**Question Number : 117 Question Id : 630680343934 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match the following in the context of classification of dyes.

Classification	Description
I. Polyene	1. Based on isoprene unit, e.g. carotenoids
II. Quinonoid	2. Based on 1, 4 naphthoquinone
III. Porphyrin	3. Based on pyrrole e.g. chlorophyll

**Options :**

1. ✓ I-1, II-2, III-3

2. ✗ I-2, II-1, III-3

3. ✗ I-1, II-3, III-2

4. ✗ I-3, II-1, III-2

**Question Number : 118 Question Id : 630680343935 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match the following in the context of movement in the toes of human foot.

	<b>Movement</b>		<b>Description</b>
I	Extension	1	When toes are move upward or away from the ground
II	Abduction	2	When toes are spread away from each other
III	Adduction	3	When toes are brought together

**Options :**

1. ✓ I-1, II-2, III-3

2. ✗ I-1, II-3, III-2

3. ✗ I-2, II-1, III-3

4. ✗ I-2, II-3, III-1

**Question Number : 119 Question Id : 630680343936 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match the following in the context of movement from ankle joints in the human foot.

	<b>Movements</b>		<b>Description</b>
I	Dorsiflexion	1	Rolling of foot bottom towards
II	Plantar flexion	2	Movement of foot in an upward direction
III	Supination	3	Movement of the foot in downwards towards the ground

**Options :**

1. ✗ I-1, II-3, III-2

2. ✗ I-2, II-1, III-3

3. ✓ I-2, II-3, III-1

4. ✗ I-3, II-1, III-2

**Question Number : 120 Question Id : 630680343937 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the English shoe sizing system, match the following fittings with their letter representation in the case of men.

	Fittings		Letter Representation
I	Narrow	1	G
II	Wide	2	E
III	Extra wide	3	H

**Options :**

1. ✓ I-2, II-1, III-3

2. ✗ I-1, II-3, III-2

3. ✗ I-2, II-3, III-1

4. ✗ I-1, II-2, III-3

**Question Number : 121 Question Id : 630680343938 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match the following in the context of components used in the pre-closing or preparation department of shoe manufacturing.

	Components		Description
I	Shank	1	Reinforcement material which retains the shape of the shoe
II	Insock	2	Inside component of the shoe which covers the insole fully or partially
III	Toe-puff	3	A piece of metal which strengthens the part of the insole under foot arch

**Options :**

1. ✘ I-1, II-2, III-3

2. ✘ I-2, II-3, III-1

3. ✘ I-2, II-1, III-3

4. ✓ I-3, II-2, III-1

**Question Number : 122 Question Id : 630680343939 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Match the following in the context of folding, a type of edge treatment.

	Folding Types		Description
I	Plain folding	1	Folding is on the straight part
II	Convex folding	2	Excess material is pleated to reduce the bulginess
III	Concave folding	3	Slots are made on the edge of the material

**Options :**

1. ✓ I-1, II-2, III-3

2.

✖ I-2, II-3, III-1

3. ✖ I-3, II-2, III-1

4. ✖ I-2, II-1, III-3

**Question Number : 123 Question Id : 630680343940 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of reaction mechanisms of some biting enzymes, which of the following pair of enzyme – site of attack is correct?

I. Chymotrypsin – Cleaves the peptide link on the carbonyl side of amino acids with aromatic sidechains, i.e. tyrosine, tryptophan

II. Prolidase – Cleaves peptide bonds containing proline and hydroxyproline

**Options :**

1. ✖ Only I

2. ✖ Only II

3. ✓ Both I and II

4. ✖ Neither I nor II

**Question Number : 124 Question Id : 630680343941 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of conversion of English shoe sizing system to American point which of the following pair is correct?

- I. Adult men → English shoe size +1
- II. Adult women → English shoe size +2.5

**Options :**

- 1. ✳ Only I
- 2. ✳ Only II
- 3. ✓ Both I and II
- 4. ✳ Neither I nor II

**Question Number : 125 Question Id : 630680343942 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Folding is the type of edge treatment, in which the edge is skived and folded. Which pair of 'type of folding – its description' is correct?

- I. Convex folding – It forms notches
- II. Concave folding – It forms pleats

**Options :**

- 1. ✳ Only I
- 2. ✳ Only II
- 3. ✳ Both I and II
- 4. ✓ Neither I nor II

**Question Number : 126 Question Id : 630680343943 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following pair of the 'type of leather – raw material' is correct?

- I. Glazed kid – Goat skins
- II. Chrome sole leather – Buffalo hides

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✓ Both I and II
- 4. ✘ Neither I nor II

**Question Number : 127 Question Id : 630680343944 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following pair is correct in the context of Fatliquors?

- I. Anionic fatliquors – Sulfate fatliquors
- II. Nonionic fatliquors – Alkyl Ethylene Oxide Condensates

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II

3.  Both I and II

4.  Neither I nor II

**Question Number : 128 Question Id : 630680343945 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following pair is correct in the context of types of Ion exchange chromatography?

I. Cation exchange resin – Styrene divinyl benzene copolymer containing quaternary ammonium salt as a functional groups.

II. Anion exchange resin – Styrene divinyl benzene copolymer containing sulphuric acid or carboxylic acid as a functional group.

**Options :**

1.  Only I

2.  Only II

3.  Both I and II

4.  Neither I nor II



**Question Number : 129 Question Id : 630680343946 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

In the context of physical testing of leathers, which of the pair is correct?

I. Tensile strength – Load per unit area of cross-section required to pull apart or break a strip of leather

II. Cracking – Test performed to assess the quality of the grain of a leather

**Options :**

1. ✘ Only I
2. ✘ Only II
3. ✓ Both I and II
4. ✘ Neither I nor II

**Question Number : 130 Question Id : 630680343947 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following pair is correct regarding the Detergents used in soaking process?

- I. Nonionic detergent – Triglyceride grease
- II. Anionic detergent – Sebaceous grease

**Options :**

1. ✘ Only I
2. ✘ Only II
3. ✓ Both I and II
4. ✘ Neither I nor II

**Question Number : 131 Question Id : 630680343948 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Which of the following pair is correct in the context of human foot bones?

- I. Phalanges group – 14 short bones
- II. Metatarsus group – 5 long bones

**Options :**

- 1. ✘ Only I
- 2. ✘ Only II
- 3. ✓ Both I and II
- 4. ✘ Neither I nor II

**Question Number : 132 Question Id : 630680343949 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following amino acids in the increasing order of their content (in residues per 1000) in collagen type I protein.

- P. Tyrosine
- Q. Alanine
- R. Glycine

**Options :**

- 1. ✓ P, Q, R
- 2. ✘ Q, R, P
- 3. ✘ Q, P, R
- 4. ✘ R, P, Q

**Question Number : 133 Question Id : 630680343950 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following in the increasing order of their equivalent weight of oxide.

P. Aluminium (III)

Q. Titanium (IV)

R. Zirconium (IV)

**Options :**

1.  P, Q, R

2.  Q, R, P

3.  R, Q, P

4.  Q, P, R

**Question Number : 134 Question Id : 630680343951 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following syntans in the decreasing order of their molecular weight (from high to low).

P. Auxiliary syntans

Q. Retans

R. Replacement syntans

**Options :**

1.  R, Q, P

2. ✘ Q, R, P

3. ✘ Q, P, R

4. ✘ P, Q, R

**Question Number : 135 Question Id : 630680343952 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

As per the 20th livestock census – 2019 (Provisional), arrange the population (in thousands) of following in increasing order in the context of Telangana.

P. Horse and Ponies

Q. Camel

R. Buffaloes

S. Sheep

**Options :**

1. ✘ P, Q, R, S

2. ✘ S, R, Q, P

3. ✓ Q, P, R, S

4. ✘ Q, S, R, P

**Question Number : 136 Question Id : 630680343953 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the export values (in million US dollars) of following Leather and Leather products of India in the increasing order as on the April – March 2021-2022.

P. Saddlery and Harness

Q. Leather Footwear

R. Finished Leather

**Options :**

1.  P, R, Q

2.  P, Q, R

3.  Q, P, R

4.  R, Q, P

**Question Number : 137 Question Id : 630680343954 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following vegetable tanstuffs used in India for tanning of vegetable tanned sole leather in the increasing order of their average tannin content (in percent).

P. Babul bark (Acacia arabica)

Q. Myrobalans (Terminalia chebula)

R. Quebracho Extract (Imported from South America)

**Options :**

1.  R, P, Q

2.  Q, P, R

3. ✘ Q, R, P

4. ✓ P, Q, R

**Question Number : 138 Question Id : 630680343955 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following skin proteins in the increasing order of Arginine content (residues per 1000) in them.

P. Collagen III

Q. Elastin

R. Keratin

**Options :**

1. ✓ Q, P, R

2. ✘ P, Q, R

3. ✘ P, R, Q

4. ✘ R, P, Q

**Question Number : 139 Question Id : 630680343956 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following groups of human foot bones in the decreasing order of total number of bones they consist of.

P. Metatarsus

Q. Tarsus

R. Phalanges

**Options :**

1. ✘ P, Q, R

2. ✘ P, R, Q

3. ✓ R, P, Q

4. ✘ Q, P, R

**Question Number : 140 Question Id : 630680343957 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following parts of Toe puff attaching machine used in the lasting section of footwear manufacturing from top to bottom.

P. Pneumatic cylinder

Q. Bottom plate

R. Top plate



**Options :**

1. ✘ R, P, Q

2. ✘ R, Q, P

3. ✓ P, R, Q

4. ✘ Q, P, R

**Question Number : 141 Question Id : 630680343958 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following parts of used in the lasting section of footwear manufacturing from bottom to top.

P. Pneumatic cylinder

Q. Pad

R. Cold molds

**Options :**

1. ✓ R, Q, P

2. ✘ R, P, Q

3. ✘ P, R, Q

4. ✘ Q, R, P

**Question Number : 142 Question Id : 630680343959 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following parts of swing arm hydraulic clicking machine from top to bottom.

P. Potentio meters

Q. Poly Propylene sheet

R. Clicking platform

**Options :**

1.

✖ Q, R, P

2. ✖ Q, P, R

3. ✖ R, P, Q

4. ✓ P, Q, R

**Question Number : 143 Question Id : 630680343960 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following parts of splitting machine in the cutting section of footwear manufacturing from top to bottom.

P. Thickness display

Q. Pulley

R. Treadle

**Options :**

1. ✓ P, Q, R

2. ✖ Q, P, R

3. ✖ Q, R, P

4. ✖ R, P, Q

**Question Number : 144 Question Id : 630680343961 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following steps involved in the preparation of chrome tanning salts from first to last.

P. Chromite ore is roasted in kilns at 1200°C, in the presence of alkali and oxygen, to convert it into dichromate

Q. Acidification converts the dichromate into chromatic acid

R. Reduction converts the chromic acid or chromate into a basic chromium (III) salt.

**Options :**

1. ✓ P, Q, R

2. ✗ Q, R, P

3. ✗ Q, P, R

4. ✗ P, R, Q

**Question Number : 145 Question Id : 630680343962 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the steps involved in the manufacturing process of cricket ball (Leather) from first to last.

P. Wet-salted cow hides free from flay cuts are washed in running water and then soaked overnight if necessary

Q. Liming is done in paddles with sodium sulphide and lime

R. The stock is shifted to drums and delimed with 2 percent ammonium sulphate and 1 percent bate deliming is checked and then the stock is washed

**Options :**

1. ✓ P, Q, R

2. ✗ Q, R, P

3.

✖ Q, P, R

4. ✖ R, P, Q

**Question Number : 146 Question Id : 630680343963 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following steps involved in the chemistry of the preparation of a sulfated oil.

P. Preparation

Q. Brine wash

R. Neutralisation

**Options :**

1. ✓ P, Q, R

2. ✖ Q, P, R

3. ✖ Q, R, P

4. ✖ R, P, Q

**Question Number : 147 Question Id : 630680343964 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following parts of heel from bottom to top.

- P. Top piece
- Q. Heel base
- R. Heel breast

**Options :**

1.  P, R, Q

2.  P, Q, R

3.  R, Q, P

4.  R, P, Q

**Question Number : 148 Question Id : 630680343965 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following parts of human foot from front to back.

- P. Distal phalanx
- Q. Proximal phalanx
- R. Talus

**Options :**

1.  P, Q, R

2.  Q, P, R

3.  Q, R, P

4. ✘ P, R, Q

**Question Number : 149 Question Id : 630680343966 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following steps of show designing process from first to last.

P. Sketch

Q. Masking

R. Meanform and standard

S. Pattern cutting

**Options :**

1. ✘ S, R, Q, P

2. ✘ P, S, R, Q

3. ✓ P, Q, R, S

4. ✘ P, R, Q, S



**Question Number : 150 Question Id : 630680343967 Is Question Mandatory : No Calculator :**

**None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0**

**Correct Marks : 2 Wrong Marks : 0**

Arrange the following steps involved in the preparation process of Chromium – Iron Tanning agent from first to last.

P. Reacting hexavalent chromium salt with iron salt in the presence of sulphuric acid

Q. Complexing the resulting matrix with organic ligands in the presence of reducing agent

R. Ageing and drying to get the tanning agent in the powder form

**Options :**

1. ✓ P, Q, R

2. ✗ Q, P, R

3. ✗ Q, R, P

4. ✗ R, Q, P

