## **FINAL ANSWER KEY**

Question 76/2025/OL

Paper Code:

Category

409/2024

Code:

Exam: CSR Technician Grade II/Sterilisation Technician Grade II

Date of Test 16-07-2025

Department Medical Education

Question1:-The first heart sound is produced by

A:-Closure of Aortic and Pulmonary valves

B:-Closure of AV valves

C:-Heart Murmur

D:-None of the above

Correct Answer:- Option-B

Question2:-Which law mentions the relationship between systolic contraction and diastolic expansion of the heart?

A:-Frank-Starling's law

B:-Beer-Lambert law

C:-Dalton's law

D:-Charle's law

Correct Answer: - Option-A

Question3:-The transmission of electrical signals from the SA node to the atrial muscles is represented in ECG by

A:-QRS complex

B:-T wave

C:-U wave

D:-P wave

Correct Answer:- Option-D

Question4:-The intensity of brain waves recorded from the scalp ranges from

A:-400-600 millivolt

B:-700-900 millivolt

C:-0-200 microvolt

D:-700-900 microvolt

Correct Answer:- Option-C

Question5:-When "thin wires or needles are placed in the muscle", it is a better method for the measurement of

(i) Intramuscular recordings of EMG

(ii) Surface recordings of EMG Choose the correct option(s) from (i) and (ii)

A:-Only (i) is correct

B:-Only (ii) is correct

C:-Both (i) and (ii) are correct

D:-Neither (i) nor (ii) is correct

Correct Answer:- Option-A

Question6:-Resting potential of skeletal muscle fibres is

A:--80 to -90 microvolt

B:-80 to 80 microvolt

C:--80 to -90 millivolt

D:-80 to 90 millivolt

Correct Answer:- Option-C

Question7:-Due to the constriction of the blood vessel, if the blood velocity exceeds a certain limit forming eddies

A:-Laminar flow changes to turbulent flow

B:-Turbulent changes to laminar flow

C:-No change in flow characteristics

D:-None of these

Correct Answer: - Option-A

Question8:-While using sphygmomanometer, the cuff pressure at which the Korotkoff sound appears and after a while it disappears indicates in order

A:-Diastolic pressure and Systolic pressure

B:-Systolic pressure and Diastolic pressure

C:-Mean blood pressure and Diastolic pressure

D:-Mean blood pressure and Systolic pressure

Correct Answer:- Option-B

Question9:-Pacemakers with fixed rate of electrical stimulations are working in

A:-Asynchronous mode

B:-Demand mode

C:-Rate modulated

D:-None of these

Correct Answer: - Option-A

Question10:-A cardioverter combines

A:-Cardiac Monitor and Defibrillator

B:-Cardiac Monitor and Pacemaker

C:-Pacemaker and Defibrillator

D:-ECG machine and Pacemaker

Correct Answer:- Option-A

Question11:-Choose the correct option(s) from (i) & (ii)

- (i) Negative pressure ventilators are never time-cycled
- (ii) Positive pressure ventilators blow air into the lungs by increasing the pressure in the trachea
  - A:-Only (i) is correct
  - B:-Only (ii) is correct
  - C:-Both (i) and (ii) are correct
  - D:-Both (i) and (ii) are incorrect

Correct Answer:- Option-B

Question12:-In a colorimeter, absorbance depends upon

- (i) Path length of light
- (ii) Concentration of the colored solution
  - A:-Only (i) is correct
  - B:-Only (ii) is correct
  - C:-Both (i) and (ii) are correct
  - D:-Both (i) and (ii) are incorrect

Correct Answer:- Option-C

Question13:-Flame photometer can be used for measuring the concentration of

- A:-Sodium ions
- B:-Potassium ions
- C:-Both Sodium and Potassium ions
- D:-None of these

Correct Answer:- Option-C

Question14:-Shortwave diathermy commonly used in clinical practice uses the frequency

A:-127.12 MHz

B:-227.12 MHz

C:-122.12 MHs

D:-27.12 MHz

Correct Answer:- Option-D

Question15:-The most important component of an Ultrasound traducer

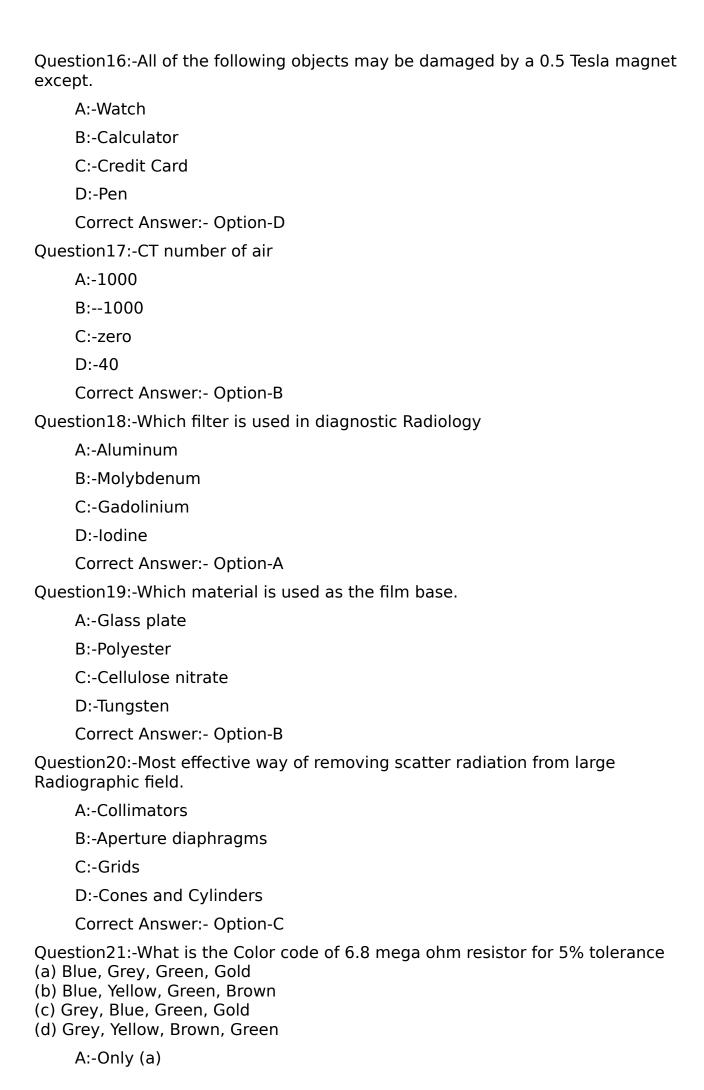
A:-Acoustic insulator

B:-Insulated cover

C:-Piezoelectric crystal

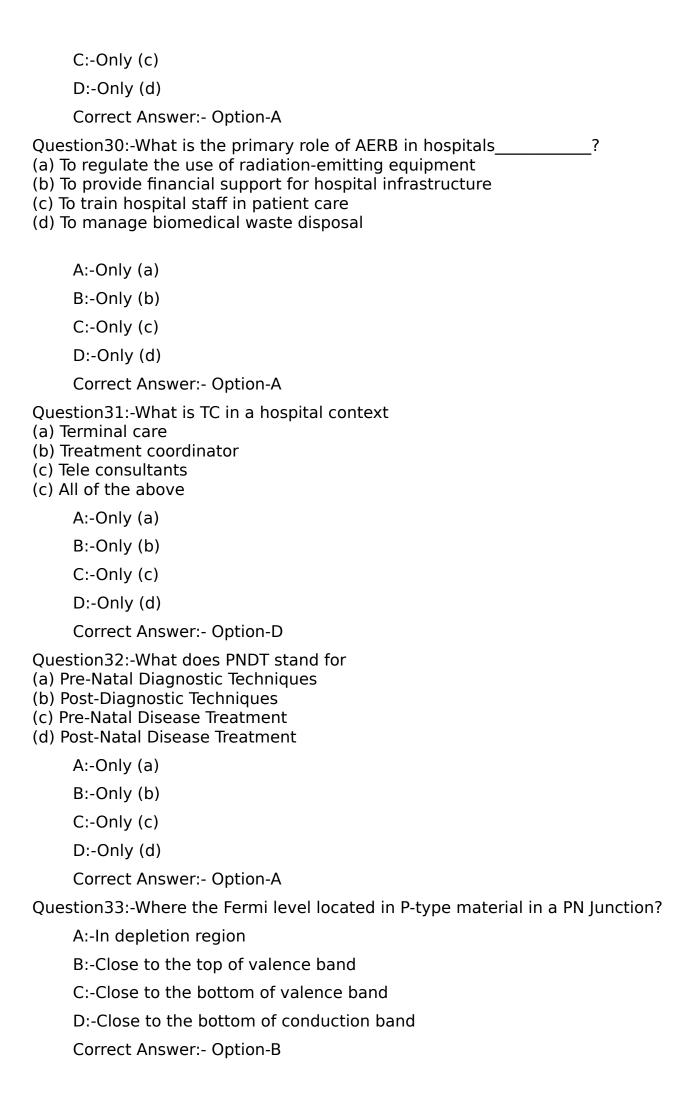
D:-Backing block

Correct Answer: - Option-C



B:-Only (b)
C:-Only (c)
D:-Only (d)
Correct Answer:- Option-A
Question22:-What kind of semiconductor is formed when silicon is doped wit phosphorous? (a) N-type (b) P-type (c) Intrinsic (d) Super conducting
A:-Only (a)
B:-(a) and (d)
C:-Only (d)
D:-(b) and (c)
Correct Answer:- Option-A
Question23:-Admittance is the reciprocal of?  (a) Resistance (b) Capacitance (c) Impedance (d) Reactance
A:-Only (a)
B:-Only (b)
C:-Only (c)
D:-Only (d)
Correct Answer:- Option-C
Question24:-What is the abbreviation of SMPS  a) Simple mode power supply b) Switched mode power supply c) Searched mode power supply d) None of the above
A:-Only (a)
B:-Only (b)
C:-Only (c)
D:-Only (d)
Correct Answer:- Option-B
Question25:-Digital multimeter is used for the measuring  a) AC and DC voltages only  b) Resistance  c) Current  d) Impedance
A:-Only (a)

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B:-(a) and (b)
     C:-(a), (b) and (c)
     D:-All of the above
     Correct Answer:- Option-C
Question26:-Which electrolyte is used for lead cells
(a) Diluted H<sub>2</sub>SO<sub>4</sub>
(b) Concentrated H<sub>2</sub>SO<sub>4</sub>
(c) Alkaline
(c) None of above
     A:-Only (a)
     B:-Only (b)
     C:-Only (c)
     D:-Only (d)
     Correct Answer:- Option-A
Question27:-Hydrometer is used to determine, which of the following
(a) Relative density and specific gravity of liquid
(b) Boiling point of water
(c) Specific humidity
(d) None of the above
     A:-Only (a)
     B:-(b) and (c)
     C:-(c) and (d)
     D:-Only (d)
     Correct Answer:- Option-A
Question28:-Why Ethylene oxide gas used for sterlization
(a) High temperature sterilization
(b) Material incompatibility
(c) Effectives organs
(d) It disrupts the DNA of living organisms
     A:-Only (a)
     B:-Only (b)
     C:-Only (c)
     D:-Only (d)
     Correct Answer:- Option-D
Question29:-What does NABH stand for?
(a) National accreditation Board for hospitals and healthcare providers
(b) National atomic board for healthcare
(c) National association for biomedical hospitals
(d) National accreditation bureau for health
     A:-Only (a)
     B:-Only (b)
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Question34:-What is the PIV requirements of diodes used in bridge rectifier? A:-V RMS B:-Half of the Vmax C:-Double the Vmax D:-V Max Correct Answer:- Option-D Question35:-What kind of feedback is used to control the gain of an amplifier automatically? A:-Negative feedback B:-Positive feedback C:-Shunt feedback D:-Series feedback Correct Answer:- Option-A Question36:-In an Op-Amp non-inverting amplifier the feedback resistor is connected A:-From input to Output B:-From Output to Inverting input C:-From inverting input to non-inverting input D:-From Output to Non-inverting input Correct Answer:- Option-B Question37:-What is the application of filters in power supply? A:-Increasing amplitude B:-Increasing ripples C:-Reducing ripples D:-Increasing phase change Correct Answer:- Option-C Ouestion38:-The function of Pin 7 of IC 555 is A:-Positive supply voltage B:-Trigger voltage C:-Threshold D:-Discharge Correct Answer:- Option-D Question39:-The point obtained by the values of IC and VCE when no signal is applied at the input is known as

A:-Cutoff point

B:-Saturation point

C:-Operating point

D:-Amplification point

Correct Answer:- Option-C

Question 40:-What kind of voltage is required to turn off the ON state NPN transistor in a Bi-stable multivibrator?

A:-Positive voltage

B:-Negative pulse

C:-Ground voltage

D:-Positive pulse

Correct Answer:- Option-B

Question41:-Which biological indicator is used as sterilization control in plasma sterilization?

A:-Bacillus atrophaeus

B:-Bacillus stearothermophilus

C:-Bacillus anthracis

D:-Bacillus subtilis

Correct Answer:- Option-B

Question42:-Find out the **correct** statement / statements regarding ethyl alcohol?

(i) It is used as a skin antiseptic

(ii) It acts by reducing surface tension

(iii) it is commonly used in concentrations of 40-50% in hospital

(iv) It is not a sporicidal agent

A:-Only (i), (ii) and (iv)

B:-Only (ii) and (iv)

C:-Only (ii),(iii) and (iv)

D:-Only (i) and (iv)

Correct Answer: - Option-D

Question43:-Which is the recommended disinfectant used for cleaning the blood spill area in casualty?

A:-Peracetic acid

B:-Glutaraldehyde

C:-Hypochlorite

D:-Chlorhexidine

Correct Answer:- Option-C

Question44:-Which of the following disinfectant is used for hand wash?

A:-Peracetic acid

B:-Glutaraldehyde

C:-Formaldehyde

D:-Chlorhexidine

Correct Answer:- Option-D

Question45:-Find the disinfectant used in plasma sterilization?

A:-Ortho-phthalaldehyde (OPA)

B:-Hypochlorite

C:-Phenol

D:-Hydrogen peroxide

Correct Answer:- Option-D

Question46:-Find out the **correct** statement/statements regarding cleaning of instruments?

- (i) An ideal cleaning agent is highly emulsifiable, saponifiable, nontoxic and have surfactant like action
- (ii) Detergents acts by increasing surface tension and killing, bacterial spores
- (iii) Ultrasonic washer is used to clean the surgical instruments

A:-Only (i)

B:-Only (ii) and (iii)

C:-Only (i) and (iii)

D:-All are true (i), (ii) and (iii)

Correct Answer:- Option-C

Question47:-Heat labile instruments/devices used in surgical procedures can be best sterilized by?

A:-1% glutaraldehyde for 10 mn

B:-Autoclaving

C:-Fumigation by Formaldehyde

D:-Ethylene oxide gas sterilization

Correct Answer:- Option-D

Question48:-Autoclaving is done at

A:-Steam at 101°C for 2 hrs at 15 lbs pressure

B:-Dry air at 100°C for 2 hrs at 5 lbs pressure

C:-Steam at 121°C for 15 minutes at 15 lbs pressure

D:-Steam at 121°C for 15 minutes at 5 lbs pressure

Correct Answer:- Option-C

Question49:-What is Semi-Critical Device according to Spaulding classification of medical devices?

A:-Device that enter a normal sterile site/sterile tissue or the vascular system

B:-Articles/devices that come in contact with mucous membrane or non-intact skin

C:-Items in contact with intact skin

D:-Device used for transplantation surgery

Correct Answer:- Option-B Question 50:- Endoscopes are best sterilized by A:-2% Glutaraldehyde B:-Autoclaving at 121°C C:-Hot air oven D:-Hypochlorite solution Correct Answer:- Option-A Question51:-All are true about Peracetic acid except? A:-It is high-level disinfectant B:-It can be used to sterilize medical and dental instruments C:-It is expensive and cause irritation, eye damage D:-In combination with hypochlorite, it is used for disinfecting hemodialyzers Correct Answer:- Option-D Question52:-Find out the wrong statement/statements regarding ventilation in CSSD (Central Sterile Supply Department)? (i) Mechanical or controlled ventilation is recommended (ii) Turbulent air flow and the use of portable fans are allowed in CSSD. (iii) Air pressure - Dirty area of CSSD should be under positive pressure (iv) 20 air changes per hour, supplied through mechanical ventilations is ideal A:-Only (ii) B:-Only (ii) and (iii) C:-Only (i) and (ii) D:-All the above (i), (ii), (iii) and (iv) Correct Answer:- Option-B Question53:-Find out the **correct** statement/statements regarding disinfectants? (i) Chlorhexidine gluconate is a high level disinfectant (ii) Quarternary ammonium compound is a high level disinfectant (iii) Peracetic acid (0.2%) is a high level disinfectant (iv) Isopropyl alcohol (70-90%) is a high level disinfectant A:-Only (i) B:-Only (i) and (ii) C:-Only (i) and (iii) D:-Only (iii)

Question54:-The operating temperature in an ethylene oxide sterlization during warm cycle is :

A:-20-35°C°

B:-100-140°C

Correct Answer:- Option-D

C:-37-63°C

D:-1000-1200°C

Correct Answer:- Option-C

Question55:-Find out the recommended method / methods for the sterilizations of materials contaminated with Prion proteins?

- I. Autoclaving at 100°C for 25 minutes
- II. Treatment with 1N NaCl for 25 minutes
- III. Treatment with 0.5% Sodium hypochlorite for 2 hrs
- IV. Autoclaving at 134°C for 1-1.5 hrs
  - A:-Only III and IV
  - B:-Only I and IV
  - C:-Only II and IV
  - D:-All the above (I, II, III and IV)

Correct Answer:- Option-A

Question56:-All are Sporicidal agents except?

- A:-Hydrogen peroxide
- B:-Ortho-phthalaldehyde
- C:-Peracetic acid
- D:-Benzalkonium chloride

Correct Answer: - Option-D

Question57:-Respiratory therapy instruments come under which category of Spaulding classification of medical devices?

- A:-Semi critical device
- B:-Critical device
- C:-Non critical device
- D:-Severe critical device

Correct Answer: - Option-A

Ouestion58:-Bowie-Disk test is:

- A:-Type I Chemical indicator
- B:-Type II Chemical indicator
- C:-Type III Chemical indicator
- D:-Type IV Chemical indicator

Correct Answer:- Option-B

Question59:-Which step of decontamination refers to removal of visible soil, organic and inorganic material from objects and surfaces?

- A:-Sterilization
- **B:-Disinfection**
- C:-Cleaning
- D:-Inspection

Correct Answer:- Option-C

Question60:-All are pre requisites for using ultra sonic cleaner except?

A:-Pre cleaning of instruments before subjecting to ultrasonic cleaners is mandate

B:-Instruments should be opened and completely submerged in water

C:-Water temperature should be maintained between 100°C and 150°C

D:-Water should be changed daily

Correct Answer:- Option-C

Question61:-What is the purpose of a biological indicator in sterilization process?

A:-Keep track of inventory levels

B:-Maintain relative humidity

C:-Verify the effectiveness of the sterilization process

D:-Ensure proper ventilation inside storage area

Correct Answer:- Option-C

Question62:-Maximum reuse life of ortho-phthalaldehyde, after activation is

A:-14 days

B:-4 hrs

C:-50 days

D:-55 days

Correct Answer:- Option-A

Question63:-Which one of the following indicators is also called process indicator?

A:-Type I Chemical indicator

B:-Type II Chemical indicator

C:-Type III Chemical indicator

D:-Type IV Chemical indicator

Correct Answer:- Option-A

Question64:-All are true about type V chemical indicator except?

A:-It is external pack control indicator

B:-It measures three variables : time, steam quality, temperature

C:-It should be used for packs containing critical items

D:-It is considered as equivalent to biological indicators

Correct Answer:- Option-A

Question65:-Find out the wrong statement/statements regarding automated washer/disinfectors?

- (i) Sterilize surgical instruments
- (ii) It works on the principle of impingement-high pressure spray of water and detergent onto the instruments
- (iii) Helps to monitor temperature and humidity level

## (v) Pre cleaning of instruments is not necessary before subjecting to automated washer A:-Only (ii) B:-Only (i) and (iii) C:-Only (iv) D:-Only (ii) and (iv) Correct Answer:- Option-B Question66:-The processing area of CSSD consists of A:-Three unidirectional zones B:-Four unidirectional zones C:-Three bidirectional zones D:-Four bidirectional zones Correct Answer:- Option-D Question67:-Decontamination sinks used in CSSD must ideally be A:-Double sink B:-Single sink C:-Triple sink D:-Both (1) and (2) Correct Answer:- Option-C Question68:-Quality assurance in CSSD A:-Prevents defects **B:-Identify defects** C:-Is product based approach D:-Is reactive process Correct Answer:- Option-A Question69:-External pack control is A:-Type IV indicator B:-Type V indicator C:-Type I indicator D:-Type II indicator Correct Answer:- Option-C Question 70: The chemical indicator measuring all three parameters of sterilization A:-Type IV indicator B:-Type V indicator C:-Type I indicator

D:-Type II indicator

Correct Answer:- Option-B

Question71:-Biological indicator used for monitoring sterilization process of steam sterilizer is

A:-Spores of clostridium tetani

B:-Spores of Geobacillus stearothermophillus

C:-Spores of Bacillus atrophaeus

D:-Spores of clostridium botulinum

Correct Answer:- Option-B

Question72:-The variables used to measure sterilization process are all except

A:-Time

B:-Steam

C:-Temperature

D:-Volume

Correct Answer:- Option-D

Question73:-The temperature maintained in plasma sterilizer is

A:-22-28°C

B:-75-95°C

C:-100-120°C

D:-37-44°C

Correct Answer: - Option-D

Question74:-Following are true while loading the steam sterilizer except

A:-Items must not be overloaded

B:-Plastic to paper side must be arranged

C:-Lighter items must be on top shelf

D:-Items need not be dry while loading

Correct Answer:- Option-D

Question75:-Following are chemical sterilizers except

A:-ETO

B:-Plasma sterilizer

C:-Ozone sterilizer

D:-Steam sterilizer

Correct Answer: - Option-D

Question76:-The type of packing material that can be used for steam. ETO and plasma sterilisation

A:-Linen

B:-Paper plastic peel pouches

C:-Non-woven disposable fabrics

D:-Aluminium foil

Correct Answer:- Option-C

Question77:-Just in time is a technique that orginated in Japan and used for

A:-Ensuring that employee are punctual

B:-Better inventory control

C:-Reducing payment of overtime wages

D:-Optimising the outlay on incoming supplies

Correct Answer:- Option-D

Question 78:- The disadvantage of peel pouch as packaging material is

A:-Integers with air removal and steam penetration

B:-Easy to maintain sterility

C:-Transparent

D:-Good dust barrier

Correct Answer:- Option-A

Question79:-The method of sealing pouches which is not acceptable is

A:-Heat sealing

B:-Tape sealing

C:-Rubber band

D:-Self sealed pouches

Correct Answer:- Option-C

Question80:-The packages should be labelled with

A:-content

B:-lot number and expiry date

C:-signature of the operator

D:-all of the above

Correct Answer: - Option-D

Question81:-The most common method of verifying the cleaning process.

A:-Visual inspection

B:-Assembly

C:-Packaging

D:-Function testing

Correct Answer: - Option-A

Question82:-The temperature and relative humidity range at inspection assembly and packaging area in CSSD.

A:-18°C to 122°C and 35-70%

B:-35°C to 55°C and 50-80%

C:-18°C to 22°C and 50-80%

D:-35°C to 55°C and 35-70%

Correct Answer:- Option-A

Question83:-Following are the properties of non-woven disposable fabrics

- (i) used for steam, ETO and gas plasma
- (ii) reusable
- (iii) flexible and stretchable
- (iv) poor barrier properties
  - A:-Only (i) and (ii)
  - B:-Only (i) and (iii)
  - C:-Only (ii) and (iii)
  - D:-Only (ii) and (iv)

Correct Answer:- Option-B

Question84:-Which of the following is not considered an inventory item?

A:-Raw materials

B:-Work in progress

C:-Finished goods

D:-Machinery

Correct Answer:- Option-D

Question85:-What is the purpose of a safety stock?

A:-To reduce the cost of ordering

B:-To prevent stockouts due to unexpected demand or delay

C:-To increase the number of inventory

D:-To minimize carrying costs

Correct Answer:- Option-B

Question86:-What does lead time refer to?

A:-The time it takes to place an order

B:-The time it takes to receive an order

C:-The time it takes to manufacture a product

D:-The time it taken to sell a product

Correct Answer:- Option-B

Question87:-Which of the following is not a component of inventory cost.

A:-Cost of ordering

B:-Cost of carrying inventory

C:-Cost of shortages

D:-Cost of labours

Correct Answer:- Option-D

Question88:-Who should perform the task of inspecting surgical instruments in the assembly area.

A:-Trained decontamination specialists

B:-Hospital administration

C:-Nursing staff

D:-Trained decontamination specialists and technician

Correct Answer:- Option-D

Question89:-What is the primary purpose of the assembly in CSSD?

A:-To inspect surgical instruments for intactness, cleanliness and functionality

B:-To disperse surgical instruments to OT rooms and clinics

C:-To store surgical instruments

D:-To sterilize surgical instruments

Correct Answer:- Option-A

Question 90:- The packaging material that can be used for ETO sterilizer is

A:-Linen

B:-Paper plastic pouches

C:-Aluminium foil

D:-Paper

Correct Answer: - Option-D

Question91:-The minimum space requirement for a CSSD department, considered essential for hospitals with more than 300 beds, should be

A:-8-9 square feet/bed

B:-9-10 square feet/bed

C:-10-11 square feet/bed

D:-11-112 square feed/bed

Correct Answer: - Option-A

Question92:-What colour bag should be used to tie infectious linen in the CSSD?

A:-Yellow

B:-Brown

C:-Red

D:-Green

Correct Answer:- Option-A

Question93:-Which of the following material can't be autoclaved?

- A:-Glass items
- **B:-Liquids items**
- C:-Bagged items
- D:-Flammable items

Correct Answer:- Option-D

Question94:-Which of the following is an example for an automated cleaning machine used in CSSD?

- A:-Autoclave
- B:-ETO sterilizer
- C:-Vacuum cleaner
- D:-Ultrasonic cleaner

Correct Answer:- Option-D

Question 95:-Which of the following standards prescribes the sterilization of health care products?

- A:-NABH 8856
- B:-FDA 21 CFR
- C:-ISO 17665
- D:-IEC 62366

Correct Answer:- Option-C

Question96:-In the CSSD department, the Decontamination/Soiled Zone should be at

- A:-Positive air pressure
- B:-Negative air pressure
- C:-A temperature lower than room temperature
- D:-A temperature higher than room temperature

Correct Answer:- Option-B

Question 97:-Which of the following can be considered a disadvantage of steam sterilizer?

- A:-High Toxicity
- **B:-Expensive**
- C:-Difficult to control and monitor
- D:-Potential for burns

Correct Answer:- Option-D

Question98:-The temperature inside a typical steam sterilizer will be in the range of

A:-121°C - 134°C

- B:-108°C 128°C
- C:-138°C 156°C

D:-136°C - 142°C

Correct Answer:- Option-A

Question99:-A performance quality testing of a steam sterilizer is used to

A:-Verify effective sterilization in actual use condition

B:-Verify the correct operation of the sterilizer

C:-Verify time pressure relationship of the sterilizer

D:-Verify temperature pressure relationship of the sterilizer

Correct Answer:- Option-A

Question100:-Which of the following is not a critical parameter that monitored during washer-disinfector cycle in the CSSD department?

A:-Temperature

B:-Pressure

C:-Water pH

D:-Time

Correct Answer:- Option-B