

CGPSC State Engineering Services Exam 27th April Shift 1

Notations :

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

**Question Paper Name:** SES Agri Engg Part 1 Actual  
**Subject Name:** SES Agri Engg Part 1  
**Duration:** 150  
**Number of Questions:** 150

Revisit allowed for view? : No  
Revisit allowed for edit? : No

Agriculture Engg  
Number of Questions: 150

**Question Number : 1**  
**Correct : 2 Wrong : 1**

The average farm power availability in india by 2010 is about

**Options :**

- A. ✗ 1.55 kw/ha
- B. ✓ 1.65 kw/ha
- C. ✗ 1.75 kw/ha
- D. ✗ 1.85 kw/ha
- E. ✗ 1.95 kw/ha

**Question Number : 2**  
**Correct : 2 Wrong : 1**

Specific fuel consumption of diesel engine ranges between

**Options :**

- A. ✗ 100 - 130 g/hp-h
- B. ✗ 130 - 160 g/hp-h
- C. ✓ 160 - 200 g/hp-h
- D. ✗ 200 - 230 g/hp-h
- E. ✗ 200 - 290 g/hp-h

**Question Number : 3**

Options :

- A. ✘ Camshaft
- B. ✔ Main journal
- C. ✘ Crank journal
- D. ✘ Power train
- E. ✘ Piston

Question Number : 4

Correct : 2 Wrong : 1

Average farm power availability in Chhattisgarh by 2010

Options :

- A. ✘ 0.51 kw/ha
- B. ✘ 0.61 kw/ha
- C. ✔ 0.71 kw/ha
- D. ✘ 0.81 kw/ha
- E. ✘ 0.91 kw/ha

Question Number : 5

Correct : 2 Wrong : 1

Stroke - Bore ratio of tractor engine is about

Options :

- A. ✔ 1.25
- B. ✘ 1
- C. ✘ 1.5
- D. ✘ 1.45
- E. ✘ 2.15

Question Number : 6

Correct : 2 Wrong : 1

Calorific value of High Speed Diesel (HSD) oil is

Options :

- A. ✘ 10300 kcal/kg
- B. ✔ 10550 kcal/kg
- C. ✘ 10850 kcal/kg
- D. ✘ 11100 kcal/kg
- E. ✘ 9600 kcal/kg

Question Number : 7

Correct : 2 Wrong : 1

Instrument which is used to measure the specific gravity of fuel is

Options :

- A. ✘ Hygrometer
- B. ✘ Thermometer
- C. ✔ Hydrometer

Question Number : 8

Correct : 2 Wrong : 1

Internal Combustion engine cylinder is made with

Options :

- A. ✘ Copper
- B. ✔ Cast iron
- C. ✘ Aluminum
- D. ✘ Steel
- E. ✘ Tin

Question Number : 9

Correct : 2 Wrong : 1

Of the total heat generated during operation of I.C engine, the quantity of heat removed by cooling system is about

Options :

- A. ✘ 20%
- B. ✔ 30%
- C. ✘ 40%
- D. ✘ 50%
- E. ✘ 70%

Question Number : 10

Correct : 2 Wrong : 1

In petrol engine, thermostat valve open fully at the temperature of

Options :

- A. ✘ 70 °C
- B. ✘ 75 °C
- C. ✔ 82 °C
- D. ✘ 88 °C
- E. ✘ 90 °C

Question Number : 11

Correct : 2 Wrong : 1

The word tractor appeared first on record in a patent issued on a tractor engine invented by George H. Harris in the year

Options :

- A. ✘ 1860
- B. ✘ 1870
- C. ✘ 1880
- D. ✔ 1890
- E. ✘ 1915

Question Number : 12

Correct : 2 Wrong : 1

In case of belt drive, the grip between pulley and belt is obtained by

Options :

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- B. ✓ Friction
- C. ✗ Cohesion force
- D. ✗ Tension
- E. ✗ Adhesion force

Question Number : 13

Correct : 2 Wrong : 1

As per ASAE standard, the width of V-belt with designation B is

Options :

- A. ✓ 16.7 mm
- B. ✗ 13.6 mm
- C. ✗ 25.2 mm
- D. ✗ 32.5 mm
- E. ✗ 19.8 mm

Question Number : 14

Correct : 2 Wrong : 1

Which type of clutch is mostly used in Power Tiller

Options :

- A. ✗ Friction Clutch
- B. ✗ Single disc clutch
- C. ✓ Dog clutch
- D. ✗ Cone clutch
- E. ✗ Multi plate clutch

Question Number : 15

Correct : 2 Wrong : 1

Fluid Coupling works on the principle of

Options :

- A. ✗ Hydrokinetics
- B. ✓ Hydrodynamics
- C. ✗ Hydrostatics
- D. ✗ Pascal's law
- E. ✗ Rittingers law

Question Number : 16

Correct : 2 Wrong : 1

Gear in which the teeth are cut obliquely across the perimeter of gear is

Options :

- A. ✗ Herring bone gear
- B. ✗ Double helical gear
- C. ✓ Helical spur gear
- D. ✗ Bull gear
- E. ✗ Crown wheel

Correct : 2 Wrong : 1

In internal expanding shoe type brake system of a tractor, the moment of the cam is caused by

Options :

- A. ✗ Brake drum
- B. ✓ Brake pedal
- C. ✗ Brake lining
- D. ✗ brake shoe
- E. ✗ Fulcrum

Question Number : 18

Correct : 2 Wrong : 1

Tractor hydraulic system works based on the principle of

Options :

- A. ✗ Newton's law
- B. ✗ Charles Law
- C. ✗ Rittinger's law
- D. ✗ Ist law of thermodynamics
- E. ✓ Pascal's law

Question Number : 19

Correct : 2 Wrong : 1

In differential unit of a tractor, the bevel pinion is in mesh with a large bevel wheel is known as

Options :

- A. ✗ Herringbone gear
- B. ✓ Crown wheel
- C. ✗ spur gear
- D. ✗ Helical gear
- E. ✗ Differential lock

Question Number : 20

Correct : 2 Wrong : 1

According to ASAE standard, the six spline PTO speed is about

Options :

- A. ✗  $536 \pm 10$  rpm
- B. ✓  $540 \pm 10$  rpm
- C. ✗  $550 \pm 10$  rpm
- D. ✗  $560 \pm 10$  rpm
- E. ✗  $565 \pm 10$  rpm

Question Number : 21

Correct : 2 Wrong : 1

The angle between the centre line of the tractor front tyre and the vertical line is known as

Options :

- A. ✗ Caster angle
- B. ✗ Toe-in

- D. ✗ Gang angle
- E. ✓ Camber angle

Question Number : 22

Correct : 2 Wrong : 1

Steering shaft of tractor steering system is made with

Options :

- A. ✗ Copper
- B. ✗ Cast iron
- C. ✗ Wood
- D. ✓ Steel
- E. ✗ Bronze

Question Number : 23

Correct : 2 Wrong : 1

In spark ignition engines, the spark plug gap setting usually kept between

Options :

- A. ✗ 0.4 - 0.6 mm
- B. ✗ 0.5 - 0.7 mm
- C. ✓ 0.5 - 0.85 mm
- D. ✗ 0.6 - 0.9 mm
- E. ✗ 0.5 - 0.95 mm

Question Number : 24

Correct : 2 Wrong : 1

Specific gravity of fully charged electrolyte solution of lead- acid battery is

Options :

- A. ✓ 1.280
- B. ✗ 1.225
- C. ✗ 1.550
- D. ✗ 2.280
- E. ✗ 0.280

Question Number : 25

Correct : 2 Wrong : 1

Hit and miss system of governor is mostly used in

Options :

- A. ✗ Scooter
- B. ✓ Gas engines
- C. ✗ Tractors
- D. ✗ Motor car
- E. ✗ Diesel engine

Question Number : 26

Correct : 2 Wrong : 1

Options :

- A. ✗ Tractive efficiency
- B. ✗ Draft
- C. ✗ Rolling resistance
- D. ✓ Coefficient of traction
- E. ✗ Rim pull

Question Number : 27

Correct : 2 Wrong : 1

In tractor Centre of gravity measurement test, the driver should be replace with the weight of

Options :

- A. ✗ 70 kg
- B. ✓ 75 kg
- C. ✗ 65 kg
- D. ✗ 80 kg
- E. ✗ 85 kg

Question Number : 28

Correct : 2 Wrong : 1

Test code for agricultural tractor is

Options :

- A. ✓ IS:5994-1998
- B. ✗ IS:5994-2000
- C. ✗ IS:5994-1970
- D. ✗ IS:5994-1960
- E. ✗ IS:5994-1995

Question Number : 29

Correct : 2 Wrong : 1

Test code for Power Tiller

Options :

- A. ✗ IS:9935-1948
- B. ✗ IS:9935-1958
- C. ✗ IS:9935-1988
- D. ✗ IS:9935-1919
- E. ✓ IS:9935-2002

Question Number : 30

Correct : 2 Wrong : 1

Draft per unit area of tilled cross-section is known as

Options :

- A. ✗ Side draft
- B. ✗ Draft
- C. ✓ Unit draft

E. ✘ Casting

Question Number : 31

Correct : 2 Wrong : 1

Carbon content of low carbon steel is

Options :

A. ✘ 10 - 20%

B. ✔ up to 0.30%

C. ✘ 0.30 - 1.0%

D. ✘ 1.0 - 1.5%

E. ✘ above 20%

Question Number : 32

Correct : 2 Wrong : 1

Tillage system in which only isolated bands of soil are tilled

Options :

A. ✘ Mulch tillage

B. ✘ Minimum tillage

C. ✘ Zero tillage

D. ✘ Primary tillage

E. ✔ Strip tillage

Question Number : 33

Correct : 2 Wrong : 1

Part of the mould board plough bottom to which the other components of the plough bottoms are attached

Options :

A. ✘ Gunnel

B. ✘ Landside

C. ✘ Share

D. ✔ Frog

E. ✘ Gauge wheel

Question Number : 34

Correct : 2 Wrong : 1

Disc thickness of a standard disc plough ranging between

Options :

A. ✘ 4 - 7 mm

B. ✔ 5 - 10 mm

C. ✘ 8 - 13 mm

D. ✘ 10 - 12 mm

E. ✘ 12 - 15 mm

Question Number : 35

Correct : 2 Wrong : 1

Puddling is done in a standing water depth of

A. ✓ 5 - 10 cm

B. ✗ 10 - 15 cm

C. ✗ 10 - 15 mm

D. ✗ 25 - 40 mm

E. ✗ 15 - 20 cm

Question Number : 36

Correct : 2 Wrong : 1

An imaginary straight line passing from the centre of resistance through the clevis to the centre of pull is known as

Options :

A. ✗ Vertical clevis

B. ✗ Horizontal clevis

C. ✗ Suction

D. ✗ Centre of power

E. ✓ Line of pull

Question Number : 37

Correct : 2 Wrong : 1

What percentage of inter variation in fertilizer rate is allowed for a seed-cum-fertilizer drill?

Options :

A. ✓ 7.5

B. ✗ 10.5

C. ✗ 12.5

D. ✗ 15

E. ✗ 10

Question Number : 38

Correct : 2 Wrong : 1

Landside of Mould board plough is fastened to the frog with the help of

Options :

A. ✓ Plough bolt

B. ✗ Stud bolt

C. ✗ Square bolt

D. ✗ Carriage bolt

E. ✗ Hexagonal head bolt

Question Number : 39

Correct : 2 Wrong : 1

Cone Penetrometer is used to measure

Options :

A. ✗ Stress

B. ✗ Tension

C. ✗ Compression

D. ✗ Depth of plough

Question Number : 40

Correct : 2 Wrong : 1

Width of furrow cut by an animal drawn medium mould board plough is

Options :

- A. ✘ 100 - 150 mm
- B. ✔ 150 - 200 mm
- C. ✘ 200 - 250 mm
- D. ✘ 250 - 300 mm
- E. ✘ 300 - 350 mm

Question Number : 41

Correct : 2 Wrong : 1

Weight of a manually operated chaff cutter's fly wheel should not be below than

Options :

- A. ✔ 24 kg
- B. ✘ 30 kg
- C. ✘ 32 kg
- D. ✘ 35 kg
- E. ✘ 27 kg

Question Number : 42

Correct : 2 Wrong : 1

Draft on mould board plough developing 100 kg pull at 30° to the horizontal is

Options :

- A. ✘ 50 kg
- B. ✘ 75 kg
- C. ✔ 86 kg
- D. ✘ 95 kg
- E. ✘ 110 kg

Question Number : 43

Correct : 2 Wrong : 1

Motorized knapsack sprayer hopper is made with

Options :

- A. ✘ Low density polyethylene
- B. ✘ M.S. sheet
- C. ✘ Copper
- D. ✘ Plastic
- E. ✔ High density polyethylene

Question Number : 44

Correct : 2 Wrong : 1

Pressure range built up in pressure chamber of Rocker Spryaer for conveniently sprying

Options :

- A. ✘ 10 - 14 kg/cm<sup>2</sup>

C. ✘ 15 - 19 kg/cm<sup>2</sup>

D. ✘ 7 - 10 kg/cm<sup>2</sup>

E. ✘ 17 - 21 kg/cm<sup>2</sup>

**Question Number : 45**

**Correct : 2 Wrong : 1**

Proper registration of mower refers to the condition when knife section is stopped in the centre of

**Options :**

A. ✘ Knife back

B. ✘ its pitman

C. ✔ its guard

D. ✘ its finger

E. ✘ none of these

**Question Number : 46**

**Correct : 2 Wrong : 1**

In tractor mounted vertical conveyer reaper, the crop is guided by

**Options :**

A. ✘ Fly wheel

B. ✘ Guard

C. ✘ Pressure spring

D. ✘ Cutter bar

E. ✔ Star wheel

**Question Number : 47**

**Correct : 2 Wrong : 1**

In cutter bar of mower, the knife is connected to

**Options :**

A. ✘ Shoe

B. ✘ Ledger plate

C. ✘ Cutter bar

D. ✘ Fly wheel

E. ✔ Pitman

**Question Number : 48**

**Correct : 2 Wrong : 1**

The cutter head of grain combine can be tilted to cut on slopes up to

**Options :**

A. ✔ 55<sup>0</sup>

B. ✘ 75<sup>0</sup>

C. ✘ 95<sup>0</sup>

D. ✘ 65<sup>0</sup>

E. ✘ 80<sup>0</sup>

Question Number : 49

Correct : 2 Wrong : 1

For proper operation the reel index of combine should be between

Options :

- A. ✗ 1.50 to 1.5
- B. ✓ 1.25 to 1.5
- C. ✗ 1.75 to 1.5
- D. ✗ 2.5 to 3.0
- E. ✗ 1.0 to 1.5

Question Number : 50

Correct : 2 Wrong : 1

Threshed grains passing out in the straw in the combine harvester is known as

Options :

- A. ✗ Header loss
- B. ✓ Rack loss
- C. ✗ processing loss
- D. ✗ shoe loss
- E. ✗ Cleaning losses

Question Number : 51

Correct : 2 Wrong : 1

Which cylinder speed is recommended for peanut thresher?

Options :

- A. ✓ Slow speed
- B. ✗ medium speed
- C. ✗ High speed
- D. ✗ 12 - 15 m/s
- E. ✗ 25 - 30 m/s

Question Number : 52

Correct : 2 Wrong : 1

Row spacing of cotton crop is

Options :

- A. ✗ 40-48 inches
- B. ✗ 30-38 inches
- C. ✗ 50-58 inches
- D. ✗ 60-68 inches
- E. ✓ 35-40 inches

Question Number : 53

Correct : 2 Wrong : 1

Machines may be tested at the request in writing of manufacturers / accredited importers referred to as

Options :

- A. ✗ Author

C.  Applicant

D.  Manufacturer

E.  Customer

Question Number : 54

Correct : 2 Wrong : 1

Overall width of flail shredder ranging between

Options :

A.  more than 100 cm

B.  70 - 100 cm

C.  50 - 70 cm

D.  30 - 50 mm

E.  none of these

Question Number : 55

Correct : 2 Wrong : 1

Effective cutting length of ISI specified sickle is about

Options :

A.  150 mm

B.  250mm

C.  200 mm

D.  100 mm

E.  125 mm

Question Number : 56

Correct : 2 Wrong : 1

How many number of bars are spirally fixed on the rasp bar cylinder?

Options :

A.  6 to 8 bars

B.  6 to 10 bars

C.  6 to 12 bars

D.  6 to 14 bars

E.  10 to 15 bars

Question Number : 57

Correct : 2 Wrong : 1

Back furrow is caused while ploughing is done

Options :

A.  Centre to side

B.  Side to centre

C.  One-way ploughing

D.  Two-way plough

E.  Casting

A devise used to cut the furrow slice vertically from a land ahead of the bottom is

Options :

- A. ✗ Share
- B. ✓ Coulter
- C. ✗ Jointer
- D. ✗ Gauge wheel
- E. ✗ Landside

Question Number : 59

Correct : 2 Wrong : 1

A strip of unploughed land that left at each end of the field for tractor turning is

Options :

- A. ✗ Gathering
- B. ✗ Casting
- C. ✓ Head land
- D. ✗ Crown
- E. ✗ Furrow wall

Question Number : 60

Correct : 2 Wrong : 1

A desorption isotherm is a plot of equilibrium moisture content versus relative humidity at a given temperature for a biological material which has been subjected to a

Options :

- A. ✓ Drying environment
- B. ✗ Wetting environment
- C. ✗ EMC
- D. ✗ ERH
- E. ✗ Packaging

Question Number : 61

Correct : 2 Wrong : 1

Dielectric meters are used for measurement of moisture content of grains by recording the dial reading of

Options :

- A. ✗ Resistance
- B. ✓ Capacitance
- C. ✗ Emf
- D. ✗ Voltage
- E. ✗ Current

Question Number : 62

Correct : 2 Wrong : 1

Knowledge of moisture content is necessary to decide whether the grain should be

Options :

- A. ✓ Dried before storage
- B. ✗ Soaked before storage

D. ✘ Parboiled before storage

E. ✘ Consumed

Question Number : 63

Correct : 2 Wrong : 1

In thin-layer drying the grain bed depth does not exceed

Options :

A. ✘ 10 cm

B. ✘ 10 m

C. ✔ 20 cm

D. ✘ 20 m

E. ✘ 45 cm

Question Number : 64

Correct : 2 Wrong : 1

Safe storage moisture content of paddy ranges

Options :

A. ✔ 12-14% (w.b)

B. ✘ 12-14% (d.b)

C. ✘ 16-18% (w.b)

D. ✘ 16-18% (d.b)

E. ✘ 20% (w.b)

Question Number : 65

Correct : 2 Wrong : 1

The relationship between EMC and RH for biological materials has been given by

Options :

A. ✘ Perry

B. ✘ Rankine

C. ✔ Henderson

D. ✘ Janssen

E. ✘ Stock

Question Number : 66

Correct : 2 Wrong : 1

The critical moisture content of agricultural produce is

Options :

A. ✔ In between constant rate and falling rate period

B. ✘ Above the falling rate period

C. ✘ Equivalent to initial moisture content

D. ✘ Equivalent to final moisture content

E. ✘ Equivalent to final moisture content

Question Number : 67

Correct : 2 Wrong : 1

Options :

- A. ✘ Hygroscopic
- B. ✘ Aerodynamic
- C. ✘ Chemical
- D. ✔ Thermodynamic
- E. ✘ Physical

Question Number : 68

Correct : 2 Wrong : 1

Stokes's law is used to find out

Options :

- A. ✔ Terminal velocity
- B. ✘ Drag coefficient
- C. ✘ Surface tension
- D. ✘ Specific gravity
- E. ✘ Viscosity

Question Number : 69

Correct : 2 Wrong : 1

In deep dryer drying system if heated air at a temperature of 450 is employed, each layer thickness recommended is

Options :

- A. ✘  $\leq 45$  cm
- B. ✘ 50 cm to 1.0 cm
- C. ✘ 1.0 cm to 1.25 cm
- D. ✘ 1.25 to 1.50 cm
- E. ✔  $\geq 1.55$  cm

Question Number : 70

Correct : 2 Wrong : 1

The rate at which solar energy arrives at the top of the atmosphere is called the

Options :

- A. ✘ Solar radiation
- B. ✔ Solar constant
- C. ✘ Solar reflection
- D. ✘ Solar diffusion
- E. ✘ Solar absorption

Question Number : 71

Correct : 2 Wrong : 1

The instrument which measures the total hemispherical solar radiation is

Options :

- A. ✔ Pyranometer
- B. ✘ Pyrheliometer
- C. ✘ Pycnometer
- D. ✘ Fluorimeter

Question Number : 72

Correct : 2 Wrong : 1

The average wind speed desirable to have (WECS) wind mills generators start turning

Options :

- A. ✘ 5 - 8 km/hr
- B. ✘ 8 - 10 km/hr
- C. ✔ 12 - 16 km/hr
- D. ✘ 20 -25 km/hr
- E. ✘ 27 - 30 km/hr

Question Number : 73

Correct : 2 Wrong : 1

The instrument used for measurement wind speed from a height of 10 m is

Options :

- A. ✘ Hygrometer
- B. ✔ Anemometer
- C. ✘ Odometer
- D. ✘ Dynamometer
- E. ✘ Pycnometer

Question Number : 74

Correct : 2 Wrong : 1

Bio gas a mixture of methane, carbon dioxide and some other trace impurities contains a major portion of methane of

Options :

- A. ✘ 30 - 40%
- B. ✘ 40 - 50%
- C. ✔ 50 - 75 %
- D. ✘ > 75 %
- E. ✘ < 75%

Question Number : 75

Correct : 2 Wrong : 1

The calorific value of biogas is

Options :

- A. ✘ 3000 kcal/kg
- B. ✘ 4000 kcal/kg
- C. ✔ 5000-5500 kcal/kg
- D. ✘ 6000-6500 kcal/kg
- E. ✘ 2800 kcal/kg

Question Number : 76

Correct : 2 Wrong : 1

The pH in the biogas digester should be maintained at the following level, that the microorganisms will be very active and bio digestion will be very efficient

- B. ✘ 4 - 6
- C. ✔ 6.5 - 7.5
- D. ✘ 8.2
- E. ✘ 9

Question Number : 77

Correct : 2 Wrong : 1

What will be the charcoal yield from 1000 kg of dry wood in the process of pyrolysis

Options :

- A. ✘ 200 kg
- B. ✘ 250 kg
- C. ✔ 300 kg
- D. ✘ 500 kg
- E. ✘ 650 kg

Question Number : 78

Correct : 2 Wrong : 1

The Stephen Boltzmann law is applicable for heat transfer by

Options :

- A. ✘ Convection
- B. ✘ Conduction
- C. ✔ Radiation
- D. ✘ Conduction and radiation combined
- E. ✘ Convection and conduction combined

Question Number : 79

Correct : 2 Wrong : 1

Optical pyrometer is used to measure

Options :

- A. ✘ Low temperature
- B. ✔ High temperature
- C. ✘ High intensity
- D. ✘ High velocity
- E. ✘ High intensity and velocity

Question Number : 80

Correct : 2 Wrong : 1

Producer gas has the following impurity, which needs removal before use in engine

Options :

- A. ✘ Nitrogen
- B. ✔ Particulate material and tar
- C. ✘ Methane
- D. ✘ Corbin dioxide
- E. ✘ Helium

Correct : 2 Wrong : 1

Which of the following dryer comes under mixing type

Options :

- A. ✓ Baffle dryer
- B. ✗ Circular metal bin dryer
- C. ✗ Rectangular metal bin dryer
- D. ✗ deep bed dryer
- E. ✗ Batch dryer

Question Number : 82

Correct : 2 Wrong : 1

The amount of heat required to raise the temperature of a given mass by unit volume is known as

Options :

- A. ✗ Specific heat
- B. ✗ Thermal conductivity
- C. ✓ Heat capacity
- D. ✗ Specific gravity
- E. ✗ Enthalpy

Question Number : 83

Correct : 2 Wrong : 1

The unit commonly used for dynamic viscosity is

Options :

- A. ✗ (a) Pascal sec
- B. ✗ (b) Stokes
- C. ✗ ( c)  $\text{cm/s}^2$
- D. ✓ Both (b) & (c)
- E. ✗ Both (a) & (c)

Question Number : 84

Correct : 2 Wrong : 1

The process of breaking down of solid material through the application of mechanical force is called

Options :

- A. ✗ Centrifugation
- B. ✗ Filtering
- C. ✓ Size reduction
- D. ✗ Agitation
- E. ✗ Mixing

Question Number : 85

Correct : 2 Wrong : 1

Cereal is deficient in which of the following amino acid

Options :

- A. ✓ Lysine
- B. ✗ Proline

- D. ✘ Serine
- E. ✘ Tyrosine

Question Number : 86  
Correct : 2 Wrong : 1  
Rate of filtration is

- Options :
- A. ✔ Maximum at early stage
  - B. ✘ Maximum at middle stage
  - C. ✘ Maximum at final stage
  - D. ✘ uniform throughout the filtration process
  - E. ✘ Uniform at final stage

Question Number : 87  
Correct : 2 Wrong : 1  
The vacuum filters are limited to maximum filtering pressure of

- Options :
- A. ✔ One
  - B. ✘ Two
  - C. ✘ Three
  - D. ✘ Five
  - E. ✘ Seven

Question Number : 88  
Correct : 2 Wrong : 1  
SI unit of thermal conductivity

- Options :
- A. ✘  $Wm/ K$
  - B. ✔  $W/K m$
  - C. ✘  $Km/W$
  - D. ✘  $W MK$
  - E. ✘  $WmK$

Question Number : 89  
Correct : 2 Wrong : 1  
For pseudo plastic fluids, increases in shear rate

- Options :
- A. ✘ (a) Increases the apparent viscosity
  - B. ✔ (b) Decreases the apparent viscosity
  - C. ✘ (c) Has no effect on apparent viscosity
  - D. ✘ (d) Has unspecified effect
  - E. ✘ Both (a) & (c)

Question Number : 90  
Correct : 2 Wrong : 1  
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Options :

- A. ✗ Gasification
- B. ✗ Pyrolysis
- C. ✓ Fermentation
- D. ✗ Digestion
- E. ✗ Liquefaction

Question Number : 91

Correct : 2 Wrong : 1

Specific heat of saturated water at  $100^{\circ}\text{C}$  is

Options :

- A. ✓ Negative
- B. ✗ Positive
- C. ✗ Zero
- D. ✗ 1
- E. ✗ 2

Question Number : 92

Correct : 2 Wrong : 1

The diffusivity has the same dimension as

Options :

- A. ✓ Kinematic viscosity
- B. ✗ Concentration
- C. ✗ Density
- D. ✗ Specific gravity
- E. ✗ Thermal conductivity

Question Number : 93

Correct : 2 Wrong : 1

Size reduction of grains is caused by impact in

Options :

- A. ✗ Gyrotory crusher
- B. ✗ Crushing roll
- C. ✓ Hammer mill
- D. ✗ Jaw crusher
- E. ✗ Ball mill

Question Number : 94

Correct : 2 Wrong : 1

Specific gravity separator is based on

Options :

- A. ✗ pH difference
- B. ✗ Optical density difference
- C. ✓ Density difference

E. ✘ Temperature difference

Question Number : 95

Correct : 2 Wrong : 1

Calculate the specific heat of orange juice concentrate having a solids content of 35%

Options :

A. ✘ 0.24 BTU/(lb R<sup>0</sup> F)

B. ✘ 0.48 BTU/(lb R<sup>0</sup> F)

C. ✔ 0.72 BTU/(lb R<sup>0</sup> F)

D. ✘ 0.90 BTU/(lb R<sup>0</sup> F)

E. ✘ 0.97 BTU/(lb R<sup>0</sup> F)

Question Number : 96

Correct : 2 Wrong : 1

Sterilization of milk is carried out to extent of destroying

Options :

A. ✘ Only pathogenic organisms

B. ✘ Only spoilage organisms

C. ✔ All types of organisms

D. ✘ Only heat resistant organisms

E. ✘ All Pathogens only

Question Number : 97

Correct : 2 Wrong : 1

The ratio of surface energy created by crushing to the energy absorbed by the solid is called

Options :

A. ✘ (a) Working index

B. ✔ (b)Crushing efficiency

C. ✘ ( c)Capacity of crusher

D. ✘ Both (a) & (b)

E. ✘ Both (a) & (c)

Question Number : 98

Correct : 2 Wrong : 1

Canned food should be stored in

Options :

A. ✘ Kitchen

B. ✔ Dry food store

C. ✘ Refrigerator

D. ✘ Deep freezer

E. ✘ Insulated room

Question Number : 99

Correct : 2 Wrong : 1

Options :

- A. ✘ Perfect flour
- B. ✘ Straight flour
- C. ✔ Graham flour
- D. ✘ Complete flour
- E. ✘ Ideal flour

Question Number : 100

Correct : 2 Wrong : 1

Specific gravity of skim milk is

Options :

- A. ✘ (a) More than cow milk
- B. ✘ (b) Less than cow milk
- C. ✘ (c) Less than buffalo milk
- D. ✘ (d) More than buffalo milk
- E. ✔ both (a) and (d)

Question Number : 101

Correct : 2 Wrong : 1

Which of the following test is used to detect sesame oil in milk fat

Options :

- A. ✘ Halphen test
- B. ✔ Baudouin test
- C. ✘ Kreis test
- D. ✘ Polenske value
- E. ✘ Adulteration test

Question Number : 102

Correct : 2 Wrong : 1

Kraft process of chemical pulping is a

Options :

- A. ✘ Sulfite process
- B. ✔ Alkaline process
- C. ✘ Acidic process
- D. ✘ Chemical process
- E. ✘ Glass making process

Question Number : 103

Correct : 2 Wrong : 1

For cake making the protein content of the flour required is

Options :

- A. ✘ 5 - 7%
- B. ✔ 7 - 9%
- C. ✘ 9 - 11%

Question Number : 104

Correct : 2 Wrong : 1

For the canning of vegetables, the brine solution strength is

Options :

- A. ✓ 2 - 3%
- B. ✗ 5 - 8%
- C. ✗ 10 - 14%
- D. ✗ 15 - 17%
- E. ✗ 20 - 23%

Question Number : 105

Correct : 2 Wrong : 1

Conveyor moves granular materials in a closed duct by a high velocity air stream

Options :

- A. ✗ Chain
- B. ✓ Pneumatic
- C. ✗ Screw
- D. ✗ Belt
- E. ✗ Spiral

Question Number : 106

Correct : 2 Wrong : 1

Capacity of bucket elevators may vary from \_\_\_\_\_

Options :

- A. ✓ 2 - 1000t/h
- B. ✗ 2 - 100t/h
- C. ✗ 2 - 50t/h
- D. ✗ 2 - 30t/h
- E. ✗ 2 - 10 t/h

Question Number : 107

Correct : 2 Wrong : 1

In grinding machines

Options :

- A. ✓ Residence time is larger and throughput is smaller
- B. ✗ Residence time is smaller and throughput is larger
- C. ✗ Both residence time and throughput is larger
- D. ✗ Both residence time and throughput is smaller
- E. ✗ Only throughput is larger

Question Number : 108

Correct : 2 Wrong : 1

Use of filter aid is to

Options :

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Courtesy : CGPSC

- B. ✘ Decrease the filtering efficiency
- C. ✘ To give body to the filtrate
- D. ✘ To increase the mass of cake
- E. ✘ To decrease the mass of cake

Question Number : 109

Correct : 2 Wrong : 1

A fluid in which the viscosity increases with increasing stirrer speed and mixing time, can be called as

Options :

- A. ✘ Newtonian fluid
- B. ✔ Pseudoplastic, thixotropic fluid
- C. ✘ Dilatant, rheopectic fluid
- D. ✘ Dilatant pseudoplastic fluid
- E. ✘ Non newtonian fluid

Question Number : 110

Correct : 2 Wrong : 1

The flow with unchanging velocity distribution is called

Options :

- A. ✘ Potential flow
- B. ✘ Steady flow
- C. ✘ Unsteady flow
- D. ✔ Fully developed flow
- E. ✘ Radial flow

Question Number : 111

Correct : 2 Wrong : 1

The space between the individual wires of a wire mesh screen is

Options :

- A. ✘ Mesh number
- B. ✔ Screen aperture
- C. ✘ Wire per lineal inch
- D. ✘ Screen capacity
- E. ✘ Screen size

Question Number : 112

Correct : 2 Wrong : 1

PFA was promulgated in year

Options :

- A. ✘ 1955
- B. ✔ 1954
- C. ✘ 1976
- D. ✘ 1973
- E. ✘ 1983

Correct : 2 Wrong : 1

Primary aim of blanching of fruit is

Options :

- A. ✗ To destroy surface microorganisms
- B. ✗ To increase softness of the fruits
- C. ✓ To destroy the enzymes
- D. ✗ To increase the palatability of the fruit
- E. ✗ To increase the texture

Question Number : 114

Correct : 2 Wrong : 1

The material having constant thermal conductivity irrespective of direction is called

Options :

- A. ✓ Isotropic
- B. ✗ Anisotropic
- C. ✗ Amorphous
- D. ✗ Homogeneous
- E. ✗ Heterogeneous

Question Number : 115

Correct : 2 Wrong : 1

The greatest volume of soft drinks are packed in this type of containers

Options :

- A. ✓ PET
- B. ✗ Glass
- C. ✗ Metal
- D. ✗ Corrugated
- E. ✗ HDPE

Question Number : 116

Correct : 2 Wrong : 1

The density of HDPE sheet is more than \_\_\_ kg/m<sup>3</sup>

Options :

- A. ✗ 840
- B. ✓ 940
- C. ✗ 1040
- D. ✗ 1140
- E. ✗ 1240

Question Number : 117

Correct : 2 Wrong : 1

Glass bottles are examples for

Options :

- A. ✓ (a) Primary Package
- B. ✗ (b) Secondary package

- D. ✘ (d) Quaternary package
- E. ✘ Both (a) & (d)

Question Number : 118

Correct : 2 Wrong : 1

For packaging beer and canned vegetables the preferred internal enamel coat is

Options :

- A. ✘ (a) Oleoresins
- B. ✘ (b) 'S' resistance resins
- C. ✘ (c) Epoxy phenolic
- D. ✔ Both (b) & (c)
- E. ✘ Both (a) & (b)

Question Number : 119

Correct : 2 Wrong : 1

Major Product being produced is static in following layout

Options :

- A. ✘ Product layout
- B. ✔ Fixed position layout
- C. ✘ Group layout
- D. ✘ Process layout
- E. ✘ Cellular layout

Question Number : 120

Correct : 2 Wrong : 1

Example for fixed cost

Options :

- A. ✘ (a)Rent
- B. ✘ (b)Raw material
- C. ✘ (c) Labour
- D. ✘ (d)Administration
- E. ✔ Both (a) & (d)

Question Number : 121

Correct : 2 Wrong : 1

OTR in plastic films stands for

Options :

- A. ✘ Ozone transfer rate
- B. ✔ Oxygen transmission rate
- C. ✘ Oxygen transfer rate
- D. ✘ Ozone transmission rate
- E. ✘ Oxygen testing rate

Question Number : 122

Correct : 2 Wrong : 1

Options :

- A. ✘ (a) Mechanical method
- B. ✔ (b) Chemical method
- C. ✘ (c) Semi chemical method
- D. ✘ (d) Modification method
- E. ✘ Both (a) & (c)

Question Number : 123

Correct : 2 Wrong : 1

Which of the following packaging material has perfect barrier properties

Options :

- A. ✘ (a) Paper and board
- B. ✘ (b) Metal
- C. ✔ (c) Glass
- D. ✘ (d)Plastics
- E. ✘ Both (a) & (b)

Question Number : 124

Correct : 2 Wrong : 1

The covered floor area recommended for Boar as per IS : 3916 - 1966

Options :

- A. ✔ 6.25 to 7.50
- B. ✘ 7.50 to 9.00
- C. ✘ 0.96 to 1.80
- D. ✘ 1.80 to 2.70
- E. ✘ 1.95 to 2.95

Question Number : 125

Correct : 2 Wrong : 1

IS code recommended for farm cattle housing for large dairy farms

Options :

- A. ✔ IS 6027- 1970
- B. ✘ IS 2981-1964
- C. ✘ IS 1166- 1986
- D. ✘ IS 5284 - 1969
- E. ✘ IS 14433-2007

Question Number : 126

Correct : 2 Wrong : 1

If 'd1' and 'd2' are average initial and final sizes of material and K is a constant then E, energy required for size reduction of unit mass is given by

Options :

- A. ✔  $E = K [(d1-d2) / (d1*d2)]$
- B. ✘  $E = K [(d1*d2) / (d1-d2)]$
- C. ✘  $E = K [(d2-d1) / (d1*d2)]$

E. ✘  $E = K [(d_1 - d_2) - (d_1 * d_2)]$

Question Number : 127

Correct : 2 Wrong : 1

A cyclone separator is used for separating

Options :

- A. ✘ (a) Particle from liquids
- B. ✘ (b) Liquid droplets from gases
- C. ✔ (c) Fine particles from solids
- D. ✘ Both (a) & (b)
- E. ✘ Both (b) & (c)

Question Number : 128

Correct : 2 Wrong : 1

Separation of liquids from solids by the application of pressure is known as

Options :

- A. ✘ Extraction
- B. ✔ Expression
- C. ✘ Filtration
- D. ✘ Leaching
- E. ✘ Both (a) & (d)

Question Number : 129

Correct : 2 Wrong : 1

To inhibit the growth of bacteria in the milk, the storage temperature in degree celcius should not exceed

Options :

- A. ✘ 1
- B. ✘ 2
- C. ✘ 3
- D. ✔ 4
- E. ✘ 5

Question Number : 130

Correct : 2 Wrong : 1

In attrition mill, the size of the food grains is reduced by

Options :

- A. ✔ Shear and crushing
- B. ✘ Impact and shear
- C. ✘ Impact and crushing
- D. ✘ Impact
- E. ✘ Crushing

Question Number : 131

Correct : 2 Wrong : 1

The percentage of bran received from paddy

- A. ✓ 5
- B. ✗ 10
- C. ✗ 15
- D. ✗ 20
- E. ✗ 25

Question Number : 132

Correct : 2 Wrong : 1

The most common fumigant for storage of cereals is

Options :

- A. ✗ (a) Zinc Phosphide
- B. ✗ (b) Ethylene dibromide
- C. ✓ (c) Aluminium Phosphide
- D. ✗ (d) DDT
- E. ✗ Both (a) & (b)

Question Number : 133

Correct : 2 Wrong : 1

For acid delinting of cotton seed, the required concentration of sulphuric acid is

Options :

- A. ✗ 75 ml per kg of seed
- B. ✓ 125 ml per kg of seed
- C. ✗ 175 ml per kg of seed
- D. ✗ 250 ml per kg of seed
- E. ✗ 275 ml per kg of seed

Question Number : 134

Correct : 2 Wrong : 1

Extraction of soluble constituent from a solid by means of solvent is known as

Options :

- A. ✗ Distillation
- B. ✓ Leaching
- C. ✗ Evaporation
- D. ✗ Sublimation
- E. ✗ Extraction

Question Number : 135

Correct : 2 Wrong : 1

Sliced fruit and sugar juice is kept in the proportion during preparation of vinegar is

Options :

- A. ✗ 1:1
- B. ✗ 2:1
- C. ✗ 3:1
- D. ✓ 4:1

Question Number : 136

Correct : 2 Wrong : 1

After pretreatment with oil, pulses are kept on floors to diffuse the oil for about

Options :

- A. ✗ 6 hours
- B. ✗ 9 hours
- C. ✓ 12 hours
- D. ✗ 15 hours
- E. ✗ 17 hours

Question Number : 137

Correct : 2 Wrong : 1

In deep litter poultry house, the floor area provided per bird is usually

Options :

- A. ✗ 0.1 m<sup>2</sup>
- B. ✓ 0.4 m<sup>2</sup>
- C. ✗ 1.0 m<sup>2</sup>
- D. ✗ 1.4 m<sup>2</sup>
- E. ✗ 1.7 m<sup>2</sup>

Question Number : 138

Correct : 2 Wrong : 1

Rat proofing cones are provided in a grain storage structure at a height of

Options :

- A. ✗ 0.90 m
- B. ✓ 1.20 m
- C. ✗ 1.50 m
- D. ✗ 1.80 m
- E. ✗ 1.90 m

Question Number : 139

Correct : 2 Wrong : 1

Sludge from septic tank should be removed in

Options :

- A. ✓ 1 or 2 years
- B. ✗ 4 years
- C. ✗ 3 years
- D. ✗ 5 years
- E. ✗ 6 years

Question Number : 140

Correct : 2 Wrong : 1

This is suitable for producing single, large, high cost components or products

Options :

- A. ✗ Group layout

- C. ✘ Process layout
- D. ✘ Product layout
- E. ✘ Functional layout

Question Number : 141

Correct : 2 Wrong : 1

Two piece cans can be manufactured by

Options :

- A. ✘ (a) Drawn & ironed
- B. ✘ (b) Drawn & redrawn
- C. ✘ ( c) Ironed & Reironed
- D. ✔ Both (a) & (b)
- E. ✘ Both (b) & (c)

Question Number : 142

Correct : 2 Wrong : 1

Lignin softens at following temperature

Options :

- A. ✘ 100 °C
- B. ✘ 120 °C
- C. ✘ 140 °C
- D. ✔ 160 °C
- E. ✘ 180 °C

Question Number : 143

Correct : 2 Wrong : 1

The use of tin and silver solder used for manufacturing food containers is in the ratio of

Options :

- A. ✘ 90:10
- B. ✘ 92:8
- C. ✘ 94:6
- D. ✔ 96:4
- E. ✘ 98:5

Question Number : 144

Correct : 2 Wrong : 1

The following is one of the paper based packing material that act as odour barrier and it is used for foods and beverages due to

Options :

- A. ✘ Grease proof paper
- B. ✘ Tissue paper
- C. ✔ wax paper
- D. ✘ Glassine paper
- E. ✘ Vegetable parchment paper

Glass bottles can be manufactured by two processes known as \_\_\_\_\_

Options :

- A. ✗ (a) blow & blow
- B. ✗ (b) Press & blow
- C. ✗ (c) press & press
- D. ✓ Both (a) & (b)
- E. ✗ Both (a) & (c)

Question Number : 146

Correct : 2 Wrong : 1

% of world's paper and board is made from wood pulp is

Options :

- A. ✗ 67
- B. ✗ 77
- C. ✗ 87
- D. ✓ 97
- E. ✗ 99

Question Number : 147

Correct : 2 Wrong : 1

A base box of tin plate consists of following sheets

Options :

- A. ✗ 102
- B. ✓ 112
- C. ✗ 122
- D. ✗ 132
- E. ✗ 142

Question Number : 148

Correct : 2 Wrong : 1

The most wide spread consumer package for aseptic products is

Options :

- A. ✓ Paper board laminate cartoon
- B. ✗ Bottle
- C. ✗ Can
- D. ✗ Sachet & Pouch
- E. ✗ PET

Question Number : 149

Correct : 2 Wrong : 1

Silica is largest constituent of glass and it contains percentage is

Options :

- A. ✗ 58 - 68
- B. ✓ 68 - 73
- C. ✗ 78 - 83

E. ✘ 90 -95

Question Number : 150

Correct : 2 Wrong : 1

Shakambhri scheme in Chhattisgarh state has been started in 2005-06 with a following subsidy for submersible pump sets up to 5 Hp

Options :

A. ✘ 50%

B. ✘ 60%

C. ✔ 75%

D. ✘ 80%

E. ✘ 90%