



## SSC JE Civil Engineering 2nd March 2017 Shift-2

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# General Engineering (Civil & Structural)

## Instructions

For the following questions answer them individually

### Question 1

For construction of structures under water, the type of lime used is \_\_\_\_

- A hydraulic lime
- B fat lime
- C quick lime
- D pure lime

Answer: A

### Question 2

The compound of Portland cement which reacts immediately with water and also sets first is \_\_\_\_.

- A Tri-calcium silicate
- B Di-calcium silicate
- C Tri-calcium aluminate
- D Tetra calcium alumino ferrite

Answer: C

### Question 3

Rapid hardening cement attains early strength due to \_\_\_\_.

- A larger proportion of lime grounded finer than normal cement
- B lesser proportion of lime grounded coarser than normal cement
- C lesser proportion of lime grounded finer than normal cement
- D larger proportion of lime grounded coarser than normal cement

Answer: D

### Question 4

The percentage of water for normal consistency is \_\_\_\_

- A 5 % to 15%
- B 10% to 25%
- C 15% to 25%
- D 20% to 30%

Answer: C

### Question 5

Soundness test of cement determines \_\_\_\_

- A quality of free lime
- B ultimate strength
- C durability
- D initial setting

**Answer: A**

**Question 6**

**Bulking of sand is caused due to \_\_\_\_**

- A surface moisture
- B air voids
- C viscosity
- D clay contents

**Answer: A**

**Question 7**

**For a 50 kg cement bag, water required is \_\_\_\_**

- A 16.5 liters
- B 18.5 liters
- C 20.5 liters
- D 22.5 liters

**Answer: D**

**Question 8**

**- Pick up the correct statement from the following Method of sawing timber \_\_\_\_.**

- A tangentially to annual rings, is known as tangential method
- B in four quarters such that each board cuts annual rings at angles not less than  $45^\circ$ , is known as quarter sawing method
- C cut out of quarter logs, parallel to the medullary rays and perpendicular to annual rings is known as radial sawing
- D All options are correct

**Answer: D**

**Question 9**

**For the manufacture of plywood, veneers are placed so that grains of adjacent veneers are \_\_\_\_.**

- A at right angles
- B parallel
- C inclined at  $45^\circ$

D inclined at  $60^\circ$

Answer: A

Question 10

The portion of the brick without a triangular corner equal to half the width and half the length is called \_\_\_\_.

- A closer
- B queen closer
- C king closer
- D squint brick

Answer: C

Question 11

The height of the sink of wash basin above floor level is kept \_\_\_\_.

- A 60 cm
- B 70 cm
- C 75 cm to 80 cm
- D 80 cm

Answer: C

Question 12

Pick up the correct statement from the following

- A In order to check up the average depth of excavation, 'Dead mans' are left at the midwidths of borrow pits
- B The earthwork calculation in excavation is made from the difference in levels obtained with a level
- C The earthwork done in excavation is to form the road embankment includes the formation of correct profiles and depositing the soil in layers
- D All options are correct

Answer: D

Question 13

If the formation level of a highway has a uniform gradient for a particular length and the ground is also having a longitudinal slope, the earthwork may be calculated by \_\_\_\_.

- A Mid-section formula
- B Trapezoidal formula
- C Prismoidal formula
- D All options are correct

Answer: D

Question 14

The area of a sloping surface of a protective embankment of mean height  $d$ , side slopes  $S : 1$  and length  $L$  is \_\_\_\_.

- A  $d \times d \times s$
- B  $\sqrt{[(d_2 \times ds_2)]}$
- C  $L.D\sqrt{(1 + s_2)}$
- D  $2Ld\sqrt{(1 + s_2)}$

Answer: C

Question 15

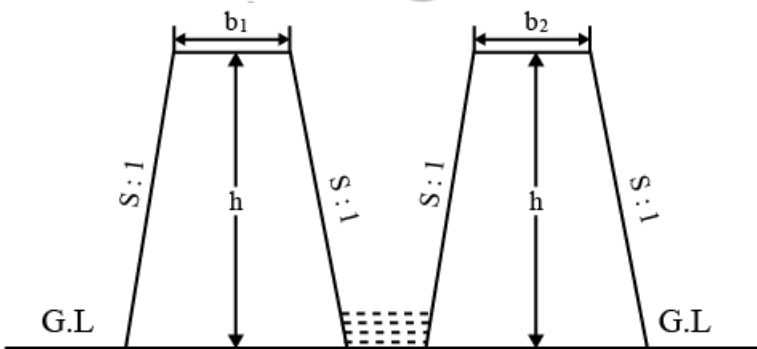
A cement concrete road is 1000 m long, 8 m wide and 15 cm thick over the sub-base of 10 cm thick gravel. The cubic content of concrete (1:2:4) for the road specified in is \_\_\_\_

- A  $300m^3$
- B  $600m^3$
- C  $900m^3$
- D  $1200m^3$

Answer: D

Question 16

The cross-sectional area of the embankment of a canal fully in embankment,(refer the figure given below) is:-



- A  $\frac{1}{2}(b_1 + b_2)h$
- B  $(b_1 + b_2)h + Sb_2$
- C  $(b_1 + b_2) + 2Sh_2$
- D  $2[(b_1 + b_2)(b + sh)]$

Answer: C

Question 17

The following item of earthwork is not measured separately \_\_\_\_.

- A Setting out of works
- B Site clearance

- C dead men
- D All options are correct

Answer: D

#### Question 18

Pick up the incorrect statement from the following \_\_\_\_.

- A No deduction is made for the volume occupied by reinforcement
- B No deduction is made for the openings up to 0.1 sq.m
- C No deduction is made for volumes occupied by pipes, not exceeding 100 sq. cm in cross- section
- D None of the these

Answer: D

#### Question 19

While estimating a reinforced cement structure the omitted cover of concrete is assumed \_\_\_\_.

- A at the end of reinforcing bar, not less than 25 mm or twice the diameter of the bar
- B in thin slabs, 12 mm minimum or diameter of the bar whichever is more
- C for reinforcing longitudinal bar in a beam 25 mm minimum or diameter of the largest bar which is more
- D All options are correct

Answer: D

#### Question 20

For 100 sq. m cement concrete (1:2:4) 4 cm thick floor, the quantity of cement required is \_\_\_\_

- A  $0.90m^3$
- B  $0.94m^3$
- C  $0.98m^3$
- D  $1.00m^3$

Answer: B

#### Question 21

- If h is the difference in height between end points of a chain of length l the required slope correction is \_\_\_\_

- A  $\frac{h^2}{2l}$
- B  $\frac{h}{2l}$
- C  $\frac{h^2}{l}$
- D  $\frac{h^2}{4l}$

Answer: A

**Question 22**

Correction per chain length of 100 links along a slope of  $\alpha$  radians is \_\_\_\_

- A  $100 \alpha^2$
- B  $100 \alpha$
- C  $100 \alpha^3$
- D  $100 \alpha(-1)$

Answer: B

**Question 23**

Check lines (or proof lines) in Chain Surveying are essentially required

- A to plot the chain lines
- B to plot the offsets
- C to indicate the accuracy of the survey work
- D to increase the out-turn

Answer: C

**Question 24**

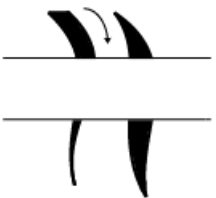
For taking offsets with an optical square on the right hand side of the chain line it is held \_\_\_\_

- A by right hand upside down
- B by left hand upright
- C by right hand upright
- D by left hand upside down

Answer: C

**Question 25**

The conventional sign shown in the figure below represents a.



- A road bridge
- B railway bridge
- C canal bridge
- D aquaduct

Answer: A

**Question 26**

In an adjusted level when the bubble is central, the axis of the bubble tube becomes parallel to \_\_\_\_

- A line of sight
- B line of collimation
- C axis of the telescope
- D None of the these

**Answer: A**

**Question 27**

An internal focusing type surveying telescope may be focused by the movement of \_\_\_\_.

- A objective glass of the telescope
- B convex-lens in the telescope
- C concave lens in the telescope
- D plano-convex lens in the telescope

**Answer: B**

**Question 28**

A dumpy level is set up with its eye-piece vertically over a peg A. The height from the top of peg A to the center of the eye-piece is 1.540 m and the reading on peg B is 0.705 m. The level is then setup over B. The height of the eye-piece above peg B is 1.490 m and a reading on A is 2.195 m. The difference in level between A and B is

- A 2.900 m
- B 3.030 m
- C 0.770 m
- D 0.785 m

**Answer: C**

**Question 29**

The constant vertical distance between two adjacent contours is called

- A horizontal interval
- B horizontal equivalent
- C vertical equivalent
- D contour interval

**Answer: D**

**Question 30**

The direction of steepest slope on a contour is \_\_\_\_.

- A along the contour



- B at an angle of  $45^\circ$  to the contour
- C at right angles to the contour
- D None of the these

Answer: C

**Question 31**

Geologic cycle for the formation of soil, is \_\_\_\_

- A Upheaval  $\rightarrow$  transportation  $\rightarrow$  deposition  $\rightarrow$  weathering
- B Weathering  $\rightarrow$  upheaval  $\rightarrow$  transportation  $\rightarrow$  deposition
- C Transportation  $\rightarrow$  upheaval  $\rightarrow$  weathering  $\rightarrow$  deposition
- D weathering  $\rightarrow$  transportation  $\rightarrow$  deposition  $\rightarrow$  upheaval

Answer: D

**Question 32**

Water content of a soil sample is the difference of the weight of the given sample at the given temperature and the weight determined after drying it for 24 hours at temperatures ranging from \_\_\_\_

- A  $80^\circ$  to  $90^\circ C$
- B  $90^\circ$  to  $95^\circ C$
- C  $95^\circ$  to  $100^\circ C$
- D  $105^\circ$  to  $110^\circ C$

Answer: D

**Question 33**

Fundamental relationship between dry density ( $\gamma_d$ ), bulk density ( $\gamma$ ) and water content ( $\omega$ ) is \_\_\_\_.

- A  $\gamma = \frac{\gamma_d}{(1+\omega)}$
- B  $\gamma_d = \frac{\gamma}{(1+\omega)}$
- C  $\omega = \frac{\gamma}{(1+\gamma_d)}$
- D  $\omega = \frac{\gamma}{(1-\gamma_d)}$

Answer: B

**Question 34**

Pick up the correct statement from the following \_\_\_\_.

- A The void ratio in soils is defined as the ratio of the volume of voids to the volume of solids
- B The porosity of a soil is defined as the ratio of the volume of voids to the gross volume of the soil
- C The bulk density of a soil is defined as the unit weight of the soil

D All options are correct

Answer: D

Question 35

Alcohol is used in manometer, because \_\_\_\_.

A its vapor pressure is low

B it provides suitable meniscus for the inclined tube

C its density is less

D it provides longer length for a given pressure difference

Answer: A

Question 36

- The property of fluid by virtue of which it offers resistance to shear is called

A surface tension

B adhesion

C cohesion

D viscosity

Answer: D

Question 37

The unit of kinematic viscosity is \_\_\_\_

A  $\frac{m^2}{sec}$

B  $\frac{kg-sec}{m^2}$

C  $\frac{newton-sec}{m^2}$

D  $\frac{newton-sec^2}{m}$

Answer: A

Question 38

The total pressure on the surface of a vertical sluice gate 2m x 1m with its top 2 m surface being 0.5 m below the water level will be \_\_\_\_

A 500 kg

B 1000 kg

C 1500 kg

D 2000 kg

Answer: D

**Question 39**

Metacentric height is given as the distance between \_\_\_\_.

- A the centre of gravity of the body and the metacentre
- B the centre of gravity of the body and the centre of buoyancy
- C the centre of gravity of the body and the centre of pressure
- D centre of buoyancy and metacentre

**Answer: A**

**Question 40**

The difference of pressure between the inside and outside of a liquid drop is

- A  $p = T \times r$
- B  $p = \frac{T}{r}$
- C  $p = \frac{T}{2r}$
- D  $p = \frac{2T}{r}$

**Answer: D**

**Question 41**

The property by which a liquid opposes relative motion between its different layers is called \_\_\_\_.

- A surface tension
- B co-efficient of viscosity
- C viscosity
- D osmosis

**Answer: A**

**Question 42**

The atmospheric pressure with rise in altitude decreases \_\_\_\_

- A linearly
- B first slowly then steeply
- C first steeply and then gradually
- D unpredictable

**Answer: B**

**Question 43**

Barometer is used to measure \_\_\_\_.

- A pressure in pipes, channels etc..

- B atmospheric pressure
- C very low pressure
- D difference of pressure between two points

Answer: B

**Question 44**

- Flow meters based on obstruction principle like orifice plates can be used with Reynold's number upto approximately \_\_\_\_

- A 500
- B 1000
- C 2000
- D 4000

Answer: C

**Question 45**

The state of the soil when plants fail to extract sufficient water for their requirements is \_\_\_\_.

- A maximum saturated point
- B permanent wilting point
- C ultimate utilization point
- D None of these

Answer: D

**Question 46**

The field capacity of a soil is 25%, its permanent wilting point is 15% and specific dry unit weight is 1.5. If the depth of root zone of a crop is 80 cm, the storage capacity of the soil is \_\_\_\_.

- A 8 cm
- B 10 cm
- C 12 cm
- D 14 cm

Answer: C

**Question 47**

According to the recommendations of Nagpur Conference the width formation of an ideal National Highway in hard rock cutting is \_\_\_\_

- A 8.9 m
- B 7.9 m
- C 6.9 m
- D 6.5 m

Answer: B

Question 48

If  $L$  is the length of a rail and  $R$  is the radius of a curve, the versine  $h$  for the curve is \_\_\_\_

A  $a = \frac{L}{4R}$

B  $a = \frac{L^2}{4R}$

C  $a = \frac{L^2}{8R}$

D  $a = \frac{L^2}{16R}$

Answer: C

Question 49

Pick up the incorrect statement from the following.

- A Manholes are provided in sewer pipes at suitable intervals
- B Catch basins are generally provided in sewers for carrying drainage discharge
- C Inlets are generally provided in all sewers
- D None of the these

Answer: C

Question 50

If  $q$  is the average sewage flow from a city of population  $P$ , the maximum sewage flow \_\_\_\_.

A  $Q = \left[ \frac{(4+\sqrt{p})}{(18+\sqrt{p})} \right] q$

B  $Q = \left[ \frac{(18+p)}{(4+\sqrt{p})} \right] q$

C  $Q = \left[ \frac{(18+\sqrt{p})}{(4+\sqrt{p})} \right] q$

D  $Q = \left[ \frac{(5+\sqrt{p})}{(15+\sqrt{p})} \right] q$

Answer: C

Question 51

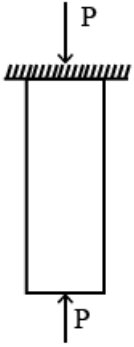
A body is said to be in equilibrium if \_\_\_\_.

- A it moves horizontally
- B it moves vertically
- C it rotates about its C.G
- D None of these

Answer: D

Question 52

The forces acting normally on the cross section of a bar shown in the figure given below introduces



- A compressive stress
- B tensile stress
- C shear stress
- D None of these

Answer: A

Question 53

At yield point of a test piece, the material \_\_\_\_

- A obeys Hooke's law
- B behaves in an elastic manner
- C regains its original shape on removal of the load
- D undergoes plastic deformation

Answer: D

Question 54

If a concrete column 200 x 200 mm in cross-section is reinforced with four steel bars of 1200 mm<sup>2</sup> total cross-sectional area. What is the safe load for the column if permissible stress in concrete is 5 N/mm<sup>2</sup> and  $E_s = 15 E_c$ ?

- A 264 MN
- B 274 MN
- C 284 MN
- D 294 MN

Answer: D

Question 55

A steel rod of sectional area 25 sq. mm connects two parallel walls 5 m apart. The nuts at the ends were tightened when the rod was heated at 100° C. If  $\alpha_{\text{steel}} = 0.000012/C^\circ$ ,  $E_{\text{steel}} = 0.2 \text{ MN/mm}^2$ , the tensile force developed at a temperature of 50° C is \_\_\_\_

- A  $80 \frac{N}{\text{mm}^2}$

B  $100 \frac{N}{mm^2}$

C  $120 \frac{N}{mm^2}$

D  $150 \frac{N}{mm^2}$

Answer: C

**Question 56**

The ratio of tangential and normal components of a stress on an inclined plane through  $\theta$  to the direction of the force is \_\_\_\_.

A  $\sin^2 \theta$

B  $\cos^2 \theta$

C  $\tan^2 \theta$

D  $\cot^2 \theta$

Answer: C

**Question 57**

Pick up the correct statement from the following

A For a uniformly distributed load, the shear force varies linearly

B For a uniformly distributed load, bulk modular curve is a parabola

C For a load varying linearly, the shear force curve is a parabola

D All options are correct

Answer: D

**Question 58**

At any point of a beam, the section modulus may be obtained by dividing the moment of inertia of the section by \_\_\_\_.

A depth of the section

B depth of the neutral axis

C maximum tensile stress at the section

D maximum compressive stress at the section

Answer: B

**Question 59**

The moment of inertia of a circular section about any diameter D, is \_\_\_\_

A  $\frac{\pi D^2}{64}$

B  $\frac{\pi D^4}{32}$

C  $\frac{\pi D^3}{64}$

D  $\frac{\pi D^4}{64}$

Answer: D

Question 60

In case of principal axes of a section \_\_\_\_

- A sum of moment of inertia is zero
- B difference of moment of inertia is zero
- C product of moment of inertia is zero
- D None of these

Answer: C

Question 61

The locus of the moment of inertia about inclined axis to the principal axis is

- A straight line
- B parabola
- C circle
- D ellipse

Answer: D

Question 62

The ratio of moments of inertia of a triangular section about its base and about a centroidal axis parallel to its base is \_\_\_\_.

- A 1
- B 1.5
- C 2
- D 3

Answer: D

Question 63

- If aggregates completely pass through a sieve of size 75 mm and are retained on a sieve of size 60 mm, the particular aggregate will be flaky if its minimum dimension is less than \_\_\_\_.

- A 20.5 mm
- B 30.5 mm
- C 40.5 mm
- D 50.5 mm

Answer: C



**Question 64**

For the construction of thin R.C.C. structures the type of cement to be avoided is \_\_\_\_

- A ordinary Portland cement
- B rapid hardening cement
- C low heat cement
- D blast furnace slag cement

**Answer: D**

**Question 65**

Percentage of pozzolanic material containing clay upto 80% used for the manufacture of pozzolana cement is \_\_\_\_.

- A 30%
- B 40%
- C 50%
- D 60%

**Answer: A**

**Question 66**

Pick up the incorrect statement applicable to the field test of good cement

- A When one thrusts one's hand into a bag of cement, one should feel warm
- B The color of the cement is bluish
- C A handful of cement thrown into a bucket of water should sink immediately
- D All options are correct

**Answer: D**

**Question 67**

Pick up the correct statement from the following.

- A The maximum size of a coarse aggregate is 75 mm and minimum is 4.75 mm
- B The maximum size of the fine aggregate is 4.75 mm and minimum 0.75 mm
- C The material having particles of size varying from 0.06 mm to 0.002 mm is known as silt
- D All options are correct

**Answer: D**

**Question 68**

Sand generally contains salt if it is obtained from \_\_\_\_.

- A nala beds
- B river beds

- C sea beds
- D All options are correct

Answer: C

**Question 69**

**Pick up the correct statement from the following.**

- A Bulking of sand is caused due to formation of a thin film of surface moisture
- B Fine sand bulks more than coarse sand
- C With 10% moisture content by weight the bulking of sand is increased by 50%
- D All options are correct

Answer: D

**Question 70**

**If fineness modulus of sand is 2.5 it is graded as \_\_\_\_**

- A very fine sand
- B fine sand
- C medium sand
- D coarse sand

Answer: B

**Question 71**

**An ordinary Portland cement when tested for its fineness, should not leave any residue on I.S. Sieve No.9, more than \_\_\_\_.**

- A 5%
- B 10%
- C 15%
- D 20%

Answer: B

**Question 72**

**Pick up the correct statement from the following**

- A Insufficient quantity of water makes the concrete mix harsh
- B Insufficient quantity of water makes the concrete unworkable
- C Excess quantity of water makes the concrete segregated
- D All options are correct

Answer: D

Question 73

Pick up the incorrect statement from the following

- A A rich mix of concrete possesses higher strength than that a lean mix of desired workability with excessive quantity of water
- B The strength of concrete decreases as the water cement ratio increases
- C If the water cement ratio is less than 0.45, the concrete is not workable and causes honey-combed structure
- D Good compaction by mechanical vibrations, increases the strength of concrete

Answer: A

Question 74

Pick up the correct statement from the following.

- A The concrete gains strength due to hydration of cement
- B The concrete cured at a temperature below  $23^{\circ}\text{C}$ , gains strength up to 28 days
- C The concrete does not set at freezing point
- D All options are correct

Answer: D

Question 75

Hardening of cement occurs at \_\_\_\_.

- A rapid rate during the first few days and afterwards it continues to increase at a decreased rate
- B slow rate during the first few days and afterwards it continues to increase at a rapid rate
- C uniform rate throughout its age
- D None of these

Answer: D

Question 76

Pick up the correct statement from the following

- A Higher workability indicates unexpected increase in the moisture content
- B Higher workability indicates deficiency of sand
- C If the concrete mix is dry, the slump is zero
- D All options are correct

Answer: D

Question 77

The top diameter, bottom diameter and the height of a slump mould are

- A 10 cm, 20 cm, 30 cm
- B 10 cm, 30 cm, 20 cm

C 20 cm, 10 cm, 30 cm

D 20 cm, 30 cm, 10 cm

Answer: A

**Question 78**

Pick up the correct statement from the following

A Segregation is necessary for a workable concrete

B Consistency does not affect the workability of concrete

C If the slump increases, workability decreases

D None of these

Answer: D

**Question 79**

The grade of concrete M 150 means that compressive strength of a 15 cm cube after 28 days, is \_\_\_\_.

A  $100 \frac{kg}{cm^2}$

B  $150 \frac{kg}{cm^2}$

C  $200 \frac{kg}{cm^2}$

D  $250 \frac{kg}{cm^2}$

Answer: B

**Question 80**

The preliminary test is repeated if the difference compressive strength of three test specimens, exceeds \_\_\_\_.

A  $5 \frac{kg}{cm^2}$

B  $8 \frac{kg}{cm^2}$

C  $10 \frac{kg}{cm^2}$

D  $15 \frac{kg}{cm^2}$

Answer: D

**Question 81**

According to load factor method, the permissible load W on a short column reinforced with longitudinal bars and lateral stirrups is \_\_\_\_.

A Stress in concrete x area of concrete

B Stress in steel x area of steel

C Stress in concrete x area of concrete + stress in steel x area of steel

D None of these

Answer: C

Question 82

The length of the lap in a compression member is kept greater than [bar diameter x (Permissible stress in bar )/(Five times the bond stress)] or is \_\_\_\_.

- A 12 bar diameters
- B 18 bar diameters
- C 24 bar diameters
- D 30 bar diameters

Answer: C

Question 83

A short column  $20\text{cm} \times 20\text{cm}$  in section is reinforced with 4 bars whose area of cross section is 20 sq.cm. If permissible compressive stresses in concrete and steel are  $40 \frac{\text{kg}}{\text{cm}^2}$  and  $300 \frac{\text{kg}}{\text{cm}^2}$  the safe load on the column should not exceed \_\_\_\_.

- A 412 kg
- B 4120 kg
- C 412000 kg
- D None of these

Answer: D

Question 84

A column is regarded as long column if the ratio of its effective length and lateral dimension exceeds \_\_\_\_

- A 10
- B 15
- C 20
- D None of these

Answer: D

Question 85

If the size of a column is reduced above the floor, the main bars of the columns \_\_\_\_

- A continues up
- B bend inwards at the floor level
- C stops just below the floor level and separates lap bars provided
- D All options are correct

Answer: D

Question 86

The pitch of the main bars in a simply supported slab should not exceed its effective depth by \_\_\_\_.

- A three times
- B four times
- C five times
- D six times

Answer: D

**Question 87**

- Distribution reinforcement in a simply supported slab is provided to distribute \_\_\_\_.

- A load
- B temperature stress
- C shrinkage stress
- D All options are correct

Answer: D

**Question 88**

In a simply supported slab the minimum spacing of distribution reinforcement should be four times the effective thickness of the slab or \_\_\_\_

- A 20 cm
- B 30 cm
- C 40 cm
- D None of these

Answer: D

**Question 89**

The modular ratio 'm' of a concrete whose permissible compressive stress is 'C' may be obtained from the equation \_\_\_\_

- A  $m = \frac{700}{3C}$
- B  $m = \frac{1400}{3C}$
- C  $m = \frac{2800}{3C}$
- D  $m = \frac{3500}{3C}$

Answer: D

**Question 90**

- For M 150 grade concrete (1 : 2 : 4) the moment of resistance factor is

- A 0.87
- B 8.5

C 7.5

D 5.8

Answer: B

**Question 91**

- If the thickness of a structural member is small as compared to its length and width, it is classified as \_\_\_\_

A one dimensional

B two dimensional

C three dimensional

D None of these

Answer: B

**Question 92**

Design of a riveted joint assumes that \_\_\_\_.

A the bending stress in rivets is accounted for

B the riveted hole is to be filled by the rivet

C the stress in the plate is not uniform

D the friction between plates is considered

Answer: B

**Question 93**

Rolled steel T-sections are used \_\_\_\_.

A as columns

B with flat strips to connect plates in steel rectangular tanks

C as built up sections to resist axial tension

D None of these

Answer: B

**Question 94**

With a percentage increase of carbon in steel, decreases its \_\_\_\_.

A strength

B hardness

C brittleness

D ductility

Answer: D

Question 95

If  $P$  is the wind pressure in  $\frac{kg}{cm^2}$ ,  $v$  is the velocity in  $\frac{km}{hour}$  and  $K$  is constant of proportionality then \_\_\_\_.

- A  $P = \frac{K}{v^2}$
- B  $v = \frac{K}{P^2}$
- C  $P = Kv^2$
- D  $P = Kv$

Answer: C

Question 96

Factor of safety is the ratio of \_\_\_\_.

- A yield stress to working stress
- B tensile stress to working stress
- C compressive stress to working stress
- D bearing stress to working stress

Answer: A

Question 97

- The ratio of shearing stress to shearing strain within elastic limit, is known as \_\_\_\_

- A modulus of elasticity
- B shear modulus of elasticity
- C bulk modulus of elasticity
- D tangent modulus of elasticity

Answer: B

Question 98

The rivets which are heated and then driven in the field are known \_\_\_\_

- A power driven shop rivets
- B power driven field rivets
- C hand driven rivets
- D cold driven rivets

Answer: B

Question 99

The gross diameter of a rivet is the diameter of \_\_\_\_.

- A cold rivet before driving



- B rivet after driving
- C rivet hole
- D None of these

Answer: B

**Question 100**

Working shear stress on the gross area of a rivet as recommended by Indian Standards is \_\_\_\_

- A  $785 \frac{kg}{cm^2}$
- B  $1025 \frac{kg}{cm^2}$
- C  $2360 \frac{kg}{cm^2}$
- D None of the these

Answer: B

## General Intelligence and Reasoning

**Instructions**

Select the related word/letters/number from the given alternatives.

**Question 101**

Red : Colour :: French : ?

- A foreign
- B language
- C European
- D Country

Answer: B

**Explanation:**

Red is a color similarly,

French is a language.

∴ The correct answer is option B.

**Question 102**

Chips : Potatoes :: Soda : ?

- A Fizz
- B Bottle
- C Lemon
- D Water

Answer: D

**Explanation:**

Chips are made of potatoes.

Similarly,

Soda is made of water.

∴ The correct answer option D.

**Question 103**

**Quadrilateral : Four :: ?**

A Cylinder : Circle

B Cube : Square

C Triangle : 180

D Hexagon : Six

**Answer: D**

**Explanation:**

As quadrilateral made by 4 sides similarly, hexagon made by 6 sides.

∴ The correct answer is option D.

**Question 104**

**FGI : HIK :: STV : ?**

A UVW

B VWY

C XYZ

D UVX

**Answer: D**

**Explanation:**

In FGI : HIK,

$$F + 2 = H$$

$$G + 2 = I$$

$$I + 2 = K$$

Similarly,

$$S + 2 = U$$

$$T + 2 = V$$

$$V + 2 = X$$

Missing term = UVX

**Question 105**

**Dream : Area :: Frame : ?**

A Farmer

B Ear

C Fare

D Freer

**Answer: C**

**Explanation:**

Dream(number of word = 5) : Area(number of word = 4) :: Frame(number of word = 5) : ?(number of word = 4)

So, missing word = fare

∴ The correct answer is option C.

**Question 106**

**Brine : Inert :: Beware : ?**

**A** Arenas

**B** Declare

**C** Spare

**D** Area

**Answer: A**

**Explanation:**

In Brine : Inert,

Number of letter in each word = 5

similarly,

Beware : ?

Number of letter in each word = 6

Missing word = arenas

**Question 107**

**169 : 13 :: 225 : ?**

**A** 22

**B** 25

**C** 20

**D** 15

**Answer: D**

**Explanation:**

$13^2 = 169$

Similarly

$15^2 = 225$

∴ The correct answer is D.

**Question 108**

**159 : 840 :: 345 : ?**

**A** 654

**B** 765

**C** 876

**D** 987

**Answer: A**

**Question 109**

761 : 928 :: 651 : ?

- A 765
- B 753
- C 807
- D 951

**Answer: C**

**Explanation:**

$$761 = 76 - 1 = 75,$$

$$928 = 92 - 8 = 84,$$

and

$$84 - 75 = 9$$

Similarly,

$$651 = 65 - 1 = 64,$$

$$807 = 80 - 7 = 73,$$

$$73 - 64 = 9$$

∴ The correct answer is option C.

**Instructions**

.

**Question 110**

- A kilometres
- B feet
- C grams
- D micrometers

**Answer: C**

**Explanation:**

Except gram remaining all word is a unit of length.

So, gram is odd.

∴ The correct answer is option C.

**Question 111**

- A pros and cons
- B dead or alive
- C null and void
- D sooner or later

**Answer: C**

**Explanation:**

Except null and void remaining pairs are antonyms to each other. So,

Null and void is odd.

∴ The correct option is C.

**Question 112**

A Crayon and Marker

B Pen and Eraser

C Book and Diary

D Pen and Marker

**Answer: C**

**Explanation:**

Except Book and Diary every pair is used to write or erase anything. So,

Book and diary is odd.

∴ The correct answer is option C.

**Question 113**

A OU

B YC

C IA

D EO

**Answer: B**

**Explanation:**

Except 'YC' remaining every pair has vowels.

∴ The Correct answer is option B.

**Question 114**

A Cuisine

B Business

C Disinterested

D Noisiness

**Answer: B**

**Explanation:**

Except Business remaining all are necessity and interests of a person like food, dislikes and business is an earning source.

So, business is odd.

∴ The correct answer is option B.

**Question 115**

A DRGK

B WMUI

- C OHAU
- D XHTV

Answer: A

**Explanation:**

Except 'DRGK' remaining all words has symmetrical letters.

So, 'DRGK' is odd.

∴ The correct answer is option A.

**Question 116**

- A 7531
- B 2468
- C 9753
- D 8642

Answer: B

**Explanation:**

Every number is in decreasing order except 2468.

So, 2468 is odd number.

∴ The correct option is B.

**Question 117**

- A 15
- B 25
- C 53
- D 45

Answer: C

**Explanation:**

Except 53 remaining all are non prime numbers.

So, 53 is odd number.

**Question 118**

- A 108, 132
- B 114, 156
- C 136, 152
- D 120, 138

Answer: C

**Explanation:**

$$132 - 108 = 24$$

$$156 - 114 = 42$$

$$138 - 120 = 18$$

$152 - 136 = 16$

Except option D remaining all are divisible by 3.

So, odd pair = 136, 152.

**Instructions**

In the given series one word/one term/one number is missing. Select the correct alternative from the given ones that will complete the series

**Question 119**

**Cremation, Accolade, Maestro, Chrome, ?**

- A Very
- B Zebra
- C Virtual
- D Time

**Answer: B**

**Explanation:**

In the series, number of letter decreased by 1 in each step so,

Missing term = zebra

**Question 120**

**Toxic, Icon, Onto, Tomorrow, ?**

- A Owl
- B Wet
- C Rat
- D Borrow

**Answer: A**

**Explanation:**

In the series,

toxic - icon

icon - onto

onto- tomorrow

tomorrow - owl

Hence, missing term = owl

**Question 121**

**age, dire, genre, stumpy, ?**

- A splayed
- B secretes
- C preacher
- D shoed

**Answer: A**

**Explanation:**

In the series, number of the letters increased by 1 in each step so,

Missing term = splayed

**Question 122**

L, J, H, F, ?

A E

B G

C D

D I

**Answer: C**

**Explanation:**

The series follows pattern as,

$$L - 2 = J$$

$$J - 2 = H$$

$$H - 2 = F$$

$$F - 2 = D$$

Missing term = D

∴ The correct option is C.

**Question 123**

eca, fdb, gec, hfd, ?

A ige

B ieg

C gei

D egi

**Answer: A**

**Explanation:**

The series follows pattern as,

$$(e + 1)(c + 1)(a + 1) \rightarrow fdb,$$

$$(f + 1)(d + 1)(b + 1) \rightarrow gec,$$

$$(g + 1)(e + 1)(c + 1) \rightarrow hfd,$$

$$(h + 1)(f + 1)(d + 1) \rightarrow \mathbf{ige}$$

Missing term = ige

**Question 124**

XXXXOXO, XXXXOOX, XXXXOOX, XXXOXOX, ?

A XOXOXOX

B XXXXOXO



C XXXX00X

D XX0XX0X

Answer: D

Explanation:

The position of the last 0 shifted by q to the left in each step so,

Missing term = XX0XX0X

Question 125

-2, 1, 5, ?, 16

A 9

B 10

C 11

D 13

Answer: B

Explanation:

The series follows pattern as,

$$-2 + 3 = 1$$

$$1 + 4 = 5$$

$$5 + 5 = 10$$

$$10 + 6 = 16$$

Missing term = 10

Question 126

$\frac{-10}{3}, \frac{-2}{3}, \frac{2}{3}, 2$

A -2

B 2

C  $\frac{-1}{3}$

D  $\frac{1}{3}$

Answer: A

Explanation:

The series follows pattern as,

$$\frac{-10}{3} + \frac{4}{3} = \frac{-6}{3} = -2$$

$$-2 + \frac{4}{3} = \frac{-6}{3} = \frac{-2}{3}$$

$$\frac{-2}{3} + \frac{4}{3} = \frac{2}{3}$$

$$\frac{2}{3} + \frac{4}{3} = 2$$

Missing term = -2

Question 127

23, 29, ?, 37, 41

- A 30
- B 33
- C 31
- D 35

**Answer: C**

**Explanation:**

The series follows pattern as,

$$23 + (2 + 4) = 29$$

$$29 + (6 - 4) = 31$$

$$31 + (2 + 4) = 37$$

Missing term = 31

**Instructions**

For the following questions answer them individually

**Question 128**

If  $a < b$ ,  $d > c$  and  $a < d$ , which of the following is true?

- I.  $b < c$
- II.  $c > a$

- A Only I
- B Neither I nor II
- C Only II
- D Both I and II

**Answer: B**

**Explanation:**

$a < b$ ,  $d > c$  and  $a < d$

By combination,

$$a < d > c$$

There is no relation  $b$  to  $c$  and  $c$  to  $a$ .

Hence, neither I nor II statement true.

**Question 129**

The weights of five boxes are 10, 30, 40, 70 & 70 kilograms. Which of the following cannot be the total weight (in kilograms) of any combination of these boxes?

- A 190
- B 180
- C 210
- D 200

**Answer: D**

**Explanation:**

For 190 kilograms =  $70 + 70 + 40 + 10$

For 180 kilograms =  $70 + 70 + 40$

For 210 kilograms = 70 + 70 + 40 + 30

We can not measure 200 by adding above weights.

**Question 130**

If the letters Q, B, T, A, U, E & N are numbered 1, 2, 3, 4, 5, 6 & 7 respectively. Select that combination of numbers so that letters arranged accordingly, form a meaningful word

- A 5617312
- B 5447134
- C 2471563
- D 3242637

**Answer:** C

**Explanation:**

Meaningful word = BANQUET which coded as 2471563.

∴ The correct answer is option C.

**Question 131**

If PROXIMAL is coded as KILCRNZO, then how will WHY be coded as?

- A DSB
- B EDC
- C CDE
- D BNM

**Answer:** A

**Explanation:**

27 - P = K,      27 - R = I,      27 - O = L,      27 - X = C  
27 - I = R,      27 - M = N,      27 - A = Z,      27 - L = O

**Similarly**

27 - W = D,      27 - H = S,      27 - Y = B.

PROXIMAL is coded as KILCRNZO,

27 - P  $\rightarrow$  K  
27 - R  $\rightarrow$  I  
27 - O  $\rightarrow$  L  
27 - X  $\rightarrow$  C  
27 - I  $\rightarrow$  R  
27 - M  $\rightarrow$  N  
27 - A  $\rightarrow$  Z  
27 - L  $\rightarrow$  O

**Similarly,**

27 - W  $\rightarrow$  D  
27 - H  $\rightarrow$  S  
27 - Y  $\rightarrow$  B

So, WHY be coded as DSB.

**Question 132**

In a certain code language, 531 means 'boy is shy', 346 means 'girl is bold', 256 means 'shy or bold'. Find the code for 'or

- A 1
- B 2
- C 3
- D 5

**Answer: B**

**Explanation:**

531 means 'boy is shy',

346 means 'girl is bold',

256 means 'shy or bold'

From the statements,

3 = is,

6 = bold,

5 = shy so,

**Or = 2**

**Question 133**

In a certain code language, '+' represents 'x', '-' represents '+', 'x' represents '÷' and '÷' represents '-'. Find out the answer to the following question

$$0.1 + 500 - 240 \times 6 = ?$$

- A 90
- B 10
- C 1.25
- D 108

**Answer: A**

**Explanation:**

$$0.1 + 500 - 240 \times 6 = ?$$

In code language,

$$0.1 \times 500 + 240 \div 6 = ?$$

$$50 + 40 = ?$$

$$? = 90$$

**Question 134**

If A @ B means A is father of B, A # B means A is sister of B and A ! B means A is son of B, then what does E @ F ! G # H mean, if H is a male?

- A H is brother of E
- B H is father of E
- C H is son of E
- D H is E's wife's brother

**Answer: D**

**Explanation:**

E @ F = E is father of F

F ! G = F is son of G

G # H = G is sister of H

E @ F ! G # H = H is E's wife's brother.

**Question 135**

If  $45@23 = 14$ ,  $76@22 = 17$ , then find the value of  $55@10 = ?$

- A 8
- B 11
- C 15
- D 5

**Answer: B**

**Explanation:**

$45@23 \rightarrow (4 + 2) + (5 + 3) = 14$ ,

$76@22 \rightarrow (7 + 2) + (6 + 2) = 17$

Similarly,

$55@10 \rightarrow (5 + 1) + (5 + 0) = 11$

**Question 136**

Which of the following words follow the trend of the given list?

Zonal, Tzars, Wizen, Seize, Waltz, ?

- A Unitize
- B Ablaze
- C Azure
- D Sanza

**Answer: A**

**Explanation:**

The position of z is increasing by 1 to the right in In each word.

So missing word = unitize

**Question 137**

Which of the following terms follows the trend of the given list?

ABC, BCAB, CABCA, \_\_\_\_\_

- A BCABCA
- B CABCAB
- C ABCCBA
- D ABCABC

**Answer: D**

**Explanation:**

In the series first letter shift to last with the increment of a letter loop of ABC.

So, missing term = ABCABC.

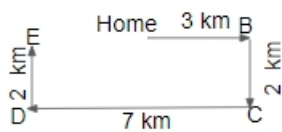
**Question 138**

A girl walks 3 km East starting from her home. She then turns South and walks 2 km, then she turns West and walks 7 km, then she turns to her right and walks 2 km. Where is she now from her starting position?

- A 10 km to the West from her home.
- B 4 km to the East from her home
- C 10 km to the East from her home
- D 4 km to the West from her home.

**Answer: D**

**Explanation:**



Distance E to home =  $7 - 3 = 4$  km

Hence, she is 4 km to the West from her home.

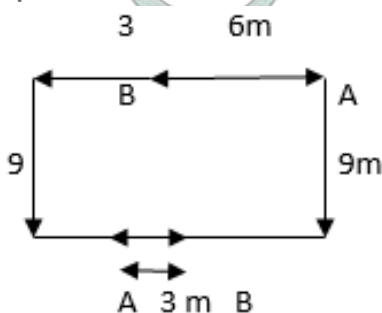
**Question 139**

A is standing 6 m to the East of B. A walks 9 m South, then turns to his right and walks 7 m. At the same time, B has walked 3 m West, then he turned South and walked 9 m, then he turned to his left and walked 5 m. Where is B now with respect to the position of A?

- A B is 12 m to the East of A
- B B is 3 m to the West of A
- C B is 3 m to the East of A
- D B is 12 m to the West of A

**Answer: C**

**Explanation:**



∴ B is 3 m to the east of A.

Question 140

In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the mentioned statements.

Statement 1: All huts are made of mud.

Statement 2: Things made of mud are not b.

Conclusion I: All huts are b.

Conclusion II: Mud huts are not b

A Only conclusion I follows

B Either I or II follows

C Neither I nor II follows

D Only conclusion II follows

Answer: D

Explanation:

All huts are made of mud.

Things made of mud are not strong so, all huts made of mud are not strong.

∴ Option D is the correct answer.

Question 141

In the question a statement is given, followed by two arguments, I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given arguments, if any, is a strong argument.

Statement : Should teachers be permitted to cane unruly children?

Argument I : No, this will teach them that physical violence is an acceptable means of social behaviour.

Argument II : Yes, children taught in a strict atmosphere are more successful.

A only argument II is strong

B neither argument I nor II is strong

C both argument I and II are strong

D only argument I is strong

Answer: D

Explanation:

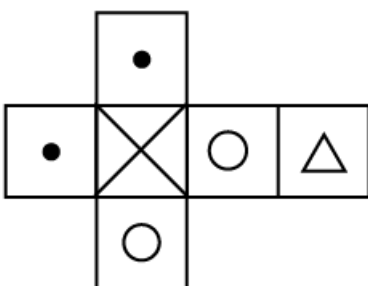
Children learn from teachers if they do such kind of violence this will make children think that violence is not bad.

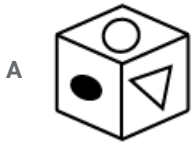
Hence, Only argument I is strong.

∴ Option D is the correct answer.

Question 142

Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?

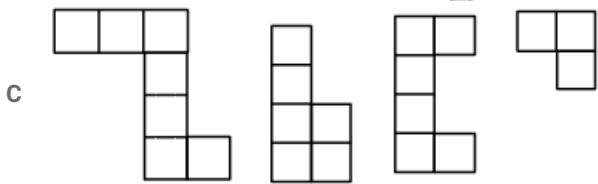
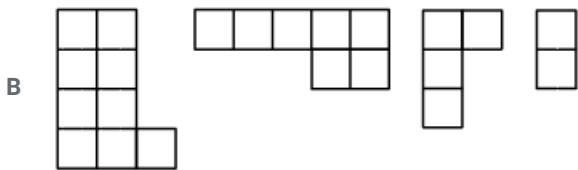
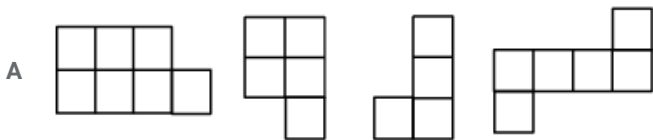
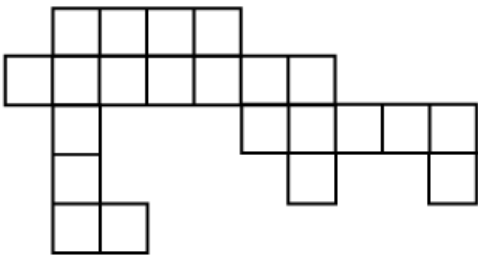




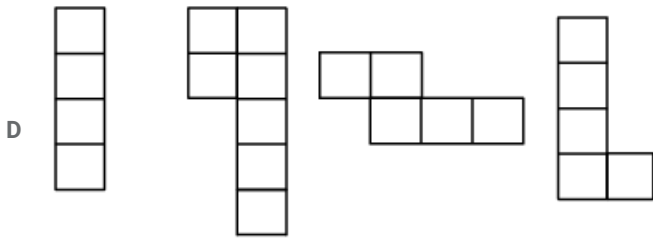
Answer: B

Question 143

Which of the following answer figure patterns can be combined to make the question figure?



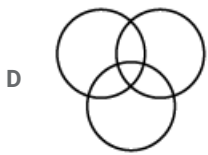
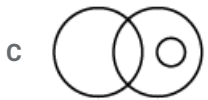
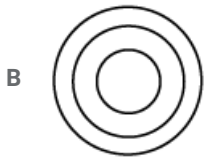
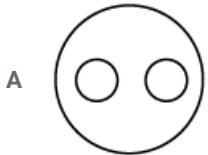




Answer: A

Question 144

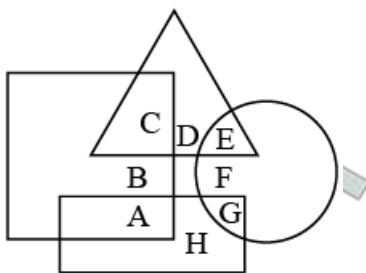
Which of the following diagrams represent the relationship between Engineers, Software Engineers and Chemical Engineers?



Answer: A

Question 145

In the following figure, square represents engineers, triangle represents environmentalists, circle represents lawyers and rectangle represents government officers. Which set of letters represents lawyers who are not environmentalists and government officers who are engineers?



A E, F and B

B A, E and F

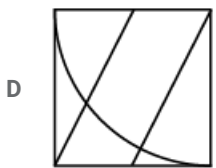
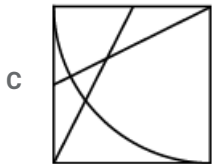
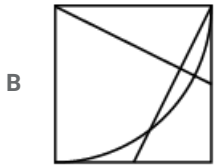
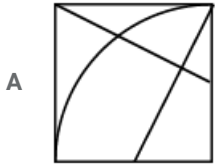
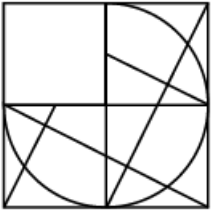
C B, A and E

D G, F and A

Answer: D

Question 146

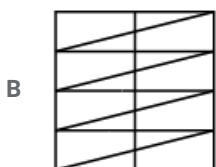
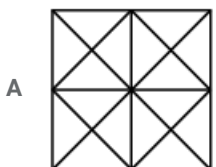
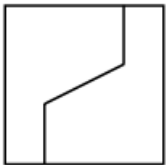
Which answer figure will complete the pattern in the question figure?

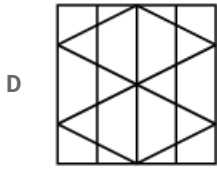
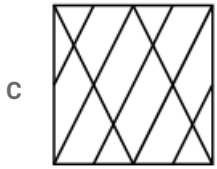


Answer: A

Question 147

From the given answer figures, select the one in which the question figure is hidden/embedded.

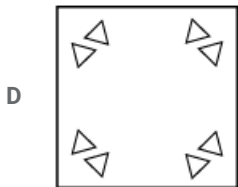
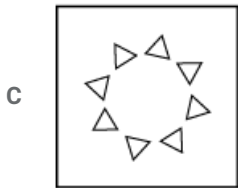
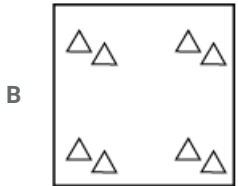
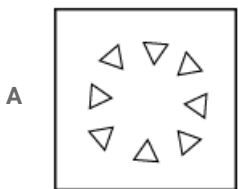
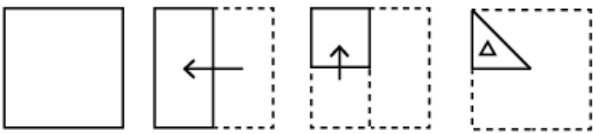




Answer: D

Question 148

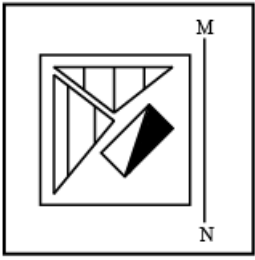
A piece of paper is folded and punched as shown below in the question figures, indicate how it will appear when opened.



Answer: A

Question 149

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?



Answer: D

Question 150

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example 'N' can be represented by 00,12 etc and 'C' can be represented by 95, 76 etc. Similarly, you have to identify the set for the word 'TYRES'.

Matrix I					
	0	1	2	3	4
0	N	V	P	R	W
1	X	T	N	Y	V
2	Z	P	S	X	Q
3	U	Z	X	W	U
4	Y	Y	R	N	R

Matrix II					
	5	6	7	8	9
5	J	I	C	E	J
6	G	G	A	L	I
7	F	C	J	K	D
8	E	M	K	J	H
9	C	L	E	A	E

- A 21,40,04,69,01
- B 12,13,41,55,69
- C 11,41,44,85,22

D 31,01,65,58,41

**Answer: C**

**Explanation:**

T = 11,

Y = 40, 41,

R = 44, 42

E = 85, 58

S = 22

TYRES = 11, 41, 44, 85, 22

∴ The correct answer is option C.

## General Awareness

**Instructions**

For the following questions answer them individually

**Question 151**

**Which of the following is not a part of the human stomach?**

A cardiac

B caecum

C fundic

D pyloric

**Answer: B**

**Question 152**

**Which of the following white blood cells is a type of agranulocytes?**

A neutrophils

B eosinophils

C lymphocytes

D basophils

**Answer: C**

**Question 153**

**Which of the following is an insectivorous plant?**

A Pitcher

B Alstonia

C Calotropis

D Eichhornia

**Answer: A**

**Question 154**

Which of the following represents the correct pathway of water movement in the root?

- A Epidermis > Endodermis > Cortex > Pericycle > Xylem
- B Epidermis > Pericycle > Endodermis > Cortex > Xylem
- C Epidermis > Cortex > Endodermis > Pericycle > Xylem
- D Epidermis > Pericycle > Cortex > Endodermis > Xylem

**Answer: C**

**Question 155**

Consider the following pairs.

Name : Formula

- 1] 2-Bromopropane :  $CH_3CH_2CH_2Br$
- 2] Propan-1-amine :  $CH_3CH_2CH_2NH_2$
- 3] Dichloromethane :  $CH_2Cl_2$
- 4] 4-Methylpent-3-en-2-one :  $CH_3CH=CHCOCH_2CH_3$

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

**Answer: D**

**Question 156**

What is the IUPAC name of Allyl bromide?

- A Dichloromethane
- B Tetrachloromethane
- C 2-Chlorobutane
- D 3-Bromopropene

**Answer: D**

**Question 157**

Formula for Hexamethylene diamine is \_\_\_\_\_.

- A  $NH_2(CH_2)_4NH_2$
- B  $NH_2(CH_2)_6NH_2$
- C  $NH_2(CH_2)_3NH_2$
- D  $NH_2(CH_2)_2NH_2$

**Answer: B**

**Question 158**

Which of the following elements is the most electronegative?

- A Aluminium
- B Boron
- C Gallium
- D Thallium

**Answer: B**

**Question 159**

Which HTML tag is used to make a text bold?

- A <body>
- B <b>
- C <br>
- D None of these

**Answer: B**

**Question 160**

To easily access commonly used commands and tools in a word processor use the \_\_\_\_ bar.

- A Home
- B Title
- C Menu
- D Tool

**Answer: D**

**Question 161**

Hareli is the harvest festival of which state?

- A Assam
- B Andhra Pradesh
- C Himachal Pradesh
- D Chhattisgarh

**Answer: D**

**Question 162**

In October 2016, who was sacked as the Chairman of the Tata Sons?

- A Ratan Tata
- B Narayan Murthy

C Cyrus Mistry

D Vishal Sikka

Answer: C

**Question 163**

Which of the following scientists demonstrated that fermentation is caused by the growth of micro-organisms?

A Edmund Becquerel

B Dmitri Mendeleev

C Louis Pasteur

D Joseph Priestley

Answer: C

**Question 164**

The line consisting of all the bundles which cost exactly equal to the consumer's income is called the \_\_\_\_\_ line

A demand

B utility

C budget

D indifference

Answer: C

**Question 165**

The area under the short run \_\_\_\_\_ cost curve up to any level of output gives us the total variable cost up to that level

A average

B marginal

C total

D variable

Answer: B

**Question 166**

- If price of an article decreases from Rs 60 to Rs 50, when quantity demanded increases from 1,000 units to 1,200 units. Find point elasticity of demand

A -1

B -1.2

C 1

D 1.2

Answer: C



**Question 167**

Which ratio is the proportion of the total deposits commercial banks keep as reserves?

- A Cash Reserve
- B currency deposit
- C Reserve deposit
- D Statutory Liquidity

**Answer: C**

**Question 168**

Gross Domestic Product + Net factor income from abroad

- A Personal income
- B Personal Disposable Income
- C Gross National Product
- D Net National Product at factor cost

**Answer: C**

**Question 169**

Which of the following metals is not used as a catalyst in catalytic converts fitted in automobiles?

- A Platinum
- B Polonium
- C Rhodium
- D Palladium

**Answer: B**

**Question 170**

Bio-magnification is well established for which of the following pollutants?

- A zinc
- B mercury
- C copper
- D nickel

**Answer: B**

**Question 171**

All changes in climate and weather take place in which layer of the atmosphere?

- A Stratosphere

- B Mesosphere
- C Thermosphere
- D Troposphere

**Answer: D**

**Question 172**

**Which type of electromagnetic radiation converts oxygen into ozone?**

- A Gamma rays
- B Cosmic rays
- C Infra-red rays
- D Ultra-violet rays

**Answer: D**

**Question 173**

**Jan Koum is the cofounder of which startup?**

- A Microsoft
- B Google
- C Facebook
- D WhatsApp

**Answer: D**

**Question 174**

**With reference to the interior of the earth consider the following statements.**

- 1] Body waves are generated due to the release of energy at the focus.
- 2] The denser the material, the lower is the velocity of the Earthquake waves.
- 3] There are two types of body waves. They are called P and S-waves.

**Which of the statements given above is / are correct?**

- A 1 and 2 only
- B 2 and 3 only
- C 3 only
- D 1 and 3 only

**Answer: D**

**Question 175**

**Which of the following is a major tectonic plate?**

- A Cocos plate
- B Arabian plate
- C Pacific plate

D Nazca plate

Answer: C

**Question 176**

The mean distance between the Sun and the Earth is approximately \_\_\_\_.

A 99.6 Million Km

B 49.6 Million Km

C 149.6 Million Km

D 199.6 Million K

Answer: C

**Question 177**

The process by which soil deposits through compaction turn into rocks is called \_\_\_\_

A lithification

B Metamorphication

C Slatification

D Petrification

Answer: A

**Question 178**

The Rabi cropping season is from \_\_\_\_

A April - June

B June - September

C May - August

D October - March

Answer: D

**Question 179**

With reference to India's freedom struggle consider the following statements.

1] Gandhiji's first major public appearance was at the opening of the Banaras Hindu University (BHU) in February 1916.

2] During the Great War of 1914-18, the French had instituted censorship of the press and permitted detention without trial.

3] Jallianwala Bagh massacre took place in Amritsar in April 1919.

Which of the statements given above is / are correct?

A 1 and 2 only

B 2 and 3 only

C 3 only

D 1 and 3 only

Answer: D

Question 180

By the sixth century BC, \_\_\_\_\_ had established control over major parts of the Assyrian empire.

- A Iranians
- B Greeks
- C Romans
- D Mongols

Answer: A

Question 181

Asoka, arguably the most famous ruler of early India, conquered \_\_\_\_\_, present-day coastal Orissa.

- A Pataliputra
- B Prayaga
- C Taxila
- D Kalinga

Answer: D

Question 182

Ibn Battuta was a \_\_\_\_\_ who wrote about his travels to India in the fourteenth century

- A Persian
- B Egyptian
- C Turk
- D Moroccan

Answer: D

Question 183

One of the earliest Bhakti movements were led by the Nayanars, who were devotees of \_\_\_\_\_.

- A Shiva
- B Vishnu
- C Surya
- D Brahma

Answer: A

Question 184

Phonograph was invented by which scientist?

- A Alexander Graham Bell
- B Thomas Edison
- C Jagadish Chandra Bose
- D George Eastman

Answer: B

**Question 185**

Consider the following pairs

Event : Time interval ( in Seconds)

- 1] Period of atomic vibrations :  $10^{-15}$
- 2] Period of radio wave :  $10^{-6}$
- 3] Travel time for light from Sun to Earth :  $10^6$
- 4] Revolution period of the moon :  $10^{10}$

Which of the above pairs are correctly matched?

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

Answer: B

**Question 186**

The correct expression for the time period (T) of a particle of mass (m) performing Simple Harmonic Motion, where k is a constant, is \_\_\_\_\_.

- A  $T = 2\pi \sqrt{k/m}$
- B  $T = 2\pi (m/k)^2$
- C  $T = 2\pi (k/m)^2$
- D  $T = 2\pi \sqrt{m/k}$

Answer: D

**Question 187**

Who has a wavelength range of 700 nm to 400 nm?

- A X-Rays
- B Visible light
- C Microwaves
- D Radio waves

Answer: B

**Question 188**

How far should the object be placed from a concave mirror of focal length 4.8 cm, when the image is to be obtained at a distance of 12 cm from the mirror?

- A 8 cm
- B 10 cm
- C 12 cm
- D 15 cm

Answer: A

**Question 189**

The Institution of the Speaker and his role of the Indian Constitution are borrowed from the \_\_\_\_ constitution.

- A British
- B French
- C Irish
- D Canadian

Answer: A

**Question 190**

Which of the following is a characteristic of a Proportional Representation system?

- A The country is divided into small geographical units called constituencies or districts
- B Candidate who wins the election may not get majority (50%+1) votes
- C A party may get more seats than votes in the legislature
- D Every party gets seats in the legislature in proportion to the percentage of votes that it gets

Answer: D

**Question 191**

Which of the following is false with reference to Presidential type of executive?

- A President is the head of the Government
- B President is head of the state
- C The President is usually directly elected by the people
- D President is accountable to the Legislatur

Answer: D

**Question 192**

Which of the following subjects is included in the Concurrent List?

- A Banking
- B Trade Unions
- C Agriculture

D Police

Answer: B

Question 193

Independence of Judiciary means all of the following, except \_\_\_\_

- A Executive must not restrain the functioning of the judiciary
- B Legislature should not interfere with the decision of the judiciary
- C Absence of accountability
- D Judges must be able to perform their functions without fear

Answer: C

Question 194

Jwala Gutta is associated with which sport?

- A Wrestling
- B Boxing
- C Badminton
- D Weight Lifting

Answer: C

Question 195

Who wrote the novel "Angels & Demons"?

- A Dan Brown
- B Jonathan Swift
- C Daniel Defoe
- D William Shakespeare

Answer: A

Question 196

Over two-thirds of all named species on earth are \_\_\_\_.

- A Porifera
- B Arthropods
- C Aschelminthes
- D Ctenophora

Answer: B

Question 197

Which type of epithelium is made of a single thin layer of flattened cells with irregular boundaries?

- A cuboidal
- B columnar
- C ciliated
- D squamous

**Answer: D**

**Question 198**

**Which is the longest river bridge in India?**

- A Bandra-Worli Sea Link
- B Mahatma Gandhi Setu
- C Vikramshila Setu
- D Vembanad Rail Bridge

**Answer: B**

**Question 199**

**Which of the following is a famous Classical Indian dancer?**

- A Amrita Sher Gil
- B Satish Gujral
- C Sonal Mansingh
- D Bhimsen Joshi

**Answer: C**

**Question 200**

**Which of the following is a recipient of the "Ashoka Chakra" award?**

- A Abhijeet Gupta
- B Hangpan Dada
- C Akhil Kumar
- D Sunil Chhetri

**Answer: B**