lmrcl

Lucknow Metro Rail Corporation Shift 3

Notations :

1. Options shown in green color and with ✔ icon are correct.
2. Options shown in red color and with ✖ icon are incorrect.

Paper Id	Paper Name
27226	Junior ENGINEER Civil Actual Final Shift 3

Question Paper Name: Junior ENGINEER Civil Actual Final Shift 3
Subject Name: Junior Engineer Civil
Duration: 90

Group 1

Group Maximum Duration : 0
Group Minimum Duration : 90
Revisit allowed for view? : No
Revisit allowed for edit? : No

Technical

Mandatory or Optional: Mandatory

Question Number : 1 Question Type : MCQ
Correct : 1 Wrong : 0.33
Based on the following rocks and minerals, select the correct statement.
Quartz, shale, basalt, granite, marble, gypsum, mica

Options :

1. ✖ Basalt and marble are the only metamorphic rocks
2. ✖ There is no sedimentary rock
3. ✖ Granite is the only igneous rock
4. ✔ Quartz and mica are minerals

Question Number : 2 Question Type : MCQ
Correct : 1 Wrong : 0.33
Granite is not suitable for ordinary building purpose because:

Options :

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1. ✖ it cannot be polished.
2. ✖ it is not a fire proof material.
3. ✔ it is costly.
4. ✖ it has less crushing strength.

Question Number : 3 Question Type : MCQ
Correct : 1 Wrong : 0.33
In which of the following pairs of trees, both trees yield soft wood?

Options :
1. ✖ Deodar and Shishum
2. ✖ Chir and Sal
3. ✖ Sal and Teal
4. ✔ Chir and Deodar

Question Number : 4 Question Type : MCQ
Correct : 1 Wrong : 0.33
Plywood is made by bonding together thin layers of wood in such a way that the angle between grains of any layer to grains of adjacent layers is:

Options :
1. ✖ 0
2. ✖ 30
3. ✖ 45
4. ✔ 90

Question Number : 5 Question Type : MCQ
Correct : 1 Wrong : 0.33
Assertion A: Paints with white lead base are not recommended for painting of iron works.
Reason R: Paints with white lead base do not check rusting of iron.

Which of the following is correct?

Options :
1. ✔ Both A and R are true, and R is the correct explanation of A.
2. ✖ Both A and R are true but R is not the correct explanation of A.
3. ✖ A is true but R is false.
4. ✖ A is false but R is true.

Question Number : 6 Question Type : MCQ
Correct : 1 Wrong : 0.33

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Match List I with List II and choose the correct answer from the options given below.

List I	List II
A. Pigment	a. Turpentine
B. Drier	b. Iron oxide
C. Thinner	c. Zinc sulphate
D. Extender	d. Aluminium silicate

Options :

1. ✖ A-c, B-b, C-a, D-d
2. ✖ A-c, B-b, C-d, D-a
3. ✔ A-b, B-c, C-a, D-d
4. ✖ A-b, B-c, C-d, D-a

Question Number : 7 Question Type : MCQ
Correct : 1 Wrong : 0.33
Hydrophoblic cement relates with IS code of:

Options :

1. ✖ IS: 8041-1990
2. ✖ IS: 6452-1989
3. ✔ IS: 8043-1991
4. ✖ IS: 6909-1990

Question Number : 8 Question Type : MCQ
Correct : 1 Wrong : 0.33
The stone that exhibits highest compressive strength is:

Options :

1. ✖ Slate
2. ✔ Gneisses
3. ✖ Granite
4. ✖ Limestone

Question Number : 9 Question Type : MCQ
Correct : 1 Wrong : 0.33
The base material for distemper is:

Options :

1. ✖ Lime
2. ✔ Chalk
3. ✖ Snowcem
4. ✖ Cement

Question Number : 10 Question Type : MCQ
Correct : 1 Wrong : 0.33
Broken bricks or stone chips are also called:

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Options :

1. ✖ Brokomite
2. ✖ Scrap
3. ✔ Spall
4. ✖ Wastage

Question Number : 11 Question Type : MCQ
Correct : 1 Wrong : 0.33
What does the term "frog" mean?

Options :

1. ✖ An apparatus to lift the stone
2. ✔ A depression on a face of brick
3. ✖ Vertical joint in a brick work
4. ✖ Soaking brick in water

Question Number : 12 Question Type : MCQ
Correct : 1 Wrong : 0.33
What does the "Slump test" for concrete determine?

Options :

1. ✖ Strength
2. ✖ Durability
3. ✔ Workability
4. ✖ Water content

Question Number : 13 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which is the most commonly used base for timber painting?

Options :

1. ✖ Red lead
2. ✖ Zinc white
3. ✔ White lead
4. ✖ Titanium white

Question Number : 14 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which of the following are the most fire resistant paints?

Options :

1. ✖ Enamel paints
2. ✖ Aluminium paints
3. ✔ Asbestos paints
4. ✖ Cement paints

Question Number : 15 Question Type : MCQ
Correct : 1 Wrong : 0.33
For a good building stone, its specific gravity should be greater than:

Options :

1. ✖ 1.5

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2. ✖ 1.7

3. ✖ 2.2

4. ✔ 2.7

Question Number : 16 Question Type : MCQ
Correct : 1 Wrong : 0.33
The main principle of surveying is to work:

Options :

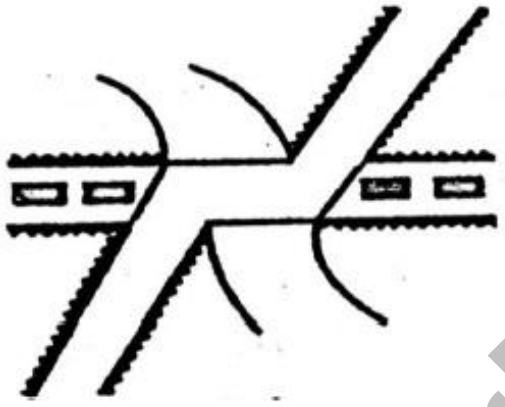
1. ✖ From part to the whole

2. ✔ From whole to the part

3. ✖ From higher level to the lower level

4. ✖ From lower level to the higher level

Question Number : 17 Question Type : MCQ
Correct : 1 Wrong : 0.33
The conventional sign shown in the figure represents a:



Options :

1. ✔ Bridge carrying railway below road

2. ✖ Bridge carrying road below railway

3. ✖ Bridge carrying road and railway at the same level

4. ✖ A level crossing

Question Number : 18 Question Type : MCQ
Correct : 1 Wrong : 0.33
The real image of an object formed by the objective must lie:

Options :

1. ✔ in the plane of cross hairs

2. ✖ at the centre of the telescope

3. ✖ at the optical centre of the eye-piece

4. ✖ anywhere inside the telescope

Question Number : 19 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which method is used for the preparation of a contour plan for a route survey?

Options :

1. ✖ Method of squares

2. ✖ Method of trace contour

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3. ✔ Method of cross profile
4. ✖ Indirect method of contouring

Question Number : 20 Question Type : MCQ
Correct : 1 Wrong : 0.33
If a tacheometer is fitted with an anallatic lens, then:

Options :
1. ✖ the additive constant is 100, the multiplying constant is zero
2. ✔ the multiplying constant is 100, the additive constant is zero
3. ✖ both multiplying and additive constants are 100
4. ✖ both multiplying and additive constants are 50

Question Number : 21 Question Type : MCQ
Correct : 1 Wrong : 0.33
In which method of surveying, do both the field observation and plotting proceed simultaneously?

Options :
1. ✖ Chain surveying
2. ✖ Compass surveying
3. ✔ Plane table surveying
4. ✖ Tacheometric surveying

Question Number : 22 Question Type : MCQ
Correct : 1 Wrong : 0.33
The least count of prismatic compass is:

Options :
1. ✖ 1°
2. ✖ $30'$
3. ✔ $15'$
4. ✖ $20''$

Question Number : 23 Question Type : MCQ
Correct : 1 Wrong : 0.33
The sensitivity of a bubble tube can be increased by:

Options :
1. ✔ Increasing the diameter of the tube
2. ✖ Decreasing the length of the bubble
3. ✖ Increasing the viscosity of liquid
4. ✖ Decreasing the radius of curvature of the tube

Question Number : 24 Question Type : MCQ
Correct : 1 Wrong : 0.33

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In the cross-section method of indirect contouring, the spacing of cross-section depends upon:

A. Contour interval
B. Scale of plan
C. Characteristics of ground

Options :

1. ✖ Only A
2. ✖ A and B
3. ✖ B and C
4. ✔ A, B and C

Question Number : 25 Question Type : MCQ
Correct : 1 Wrong : 0.33

Which of the following methods of theodolite traversing is suitable for locating the details which are far away from transit stations?

Options :

1. ✖ Measuring angle and distance from one transit station
2. ✔ Measuring angle to the point from at least two station
3. ✖ Measuring angle at one station and distance from other
4. ✖ Measuring distance from two points on traverse line

Question Number : 26 Question Type : MCQ
Correct : 1 Wrong : 0.33

A sewer is laid from manhole A to manhole B, 250 m apart along a downward gradient of 1 in 125. If the reduced level of the invert at A is 205.75 m and the height of the boning rod is 3 m, then the reduced level of the sight rail at B is:

Options :

1. ✖ 202.75 m
2. ✔ 206.75 m
3. ✖ 208.75 m
4. ✖ 211.75 m

Question Number : 27 Question Type : MCQ
Correct : 1 Wrong : 0.33

A rectangular plot of 16 km^2 in area is shown on a map by a similar rectangular area of 1 cm^2. R.F. of the scale to measure a distance of 40 km will be:

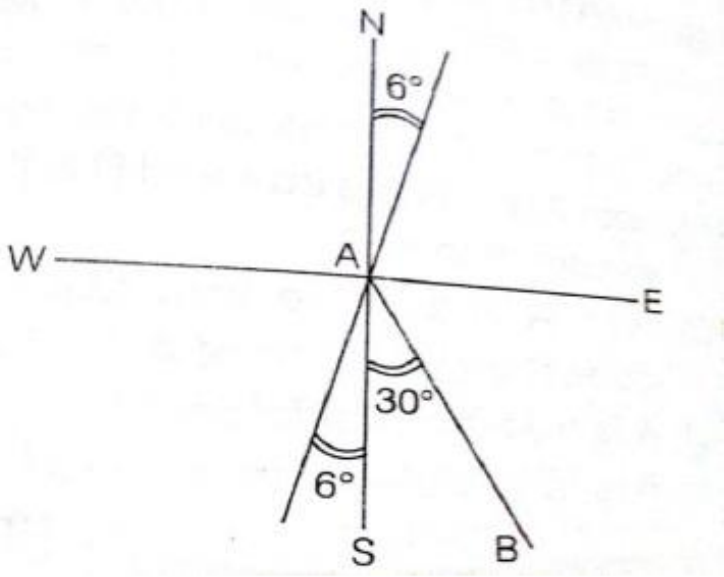
Options :

1. ✖ $\frac{1}{1600}$
2. ✔ $\frac{1}{400000}$
3. ✖ $\frac{1}{400}$
4. ✖ $\frac{1}{16000}$

Question Number : 28 Question Type : MCQ
Correct : 1 Wrong : 0.33

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The magnetic bearing of a line AB is S 30° E. If the declination is 6° west, then what is the true bearing?



Options :

1. ✔ S 36° E
2. ✖ N 36° W
3. ✖ S 24° E
4. ✖ N 24° W

Question Number : 29 Question Type : MCQ
Correct : 1 Wrong : 0.33

Consider the following statements about theodolites.

A. Transit theodolite is a theodolite in which the telescope can be transited.
B. EDMI is a theodolite fitted with a micrometer for measurements.
C. A double reading theodolite is one in which diametrically opposite segments of the graduated circle are brought into view and readings are correct.

Which of these statements are correct?

Options :

1. ✔ All three
2. ✖ Only A and C
3. ✖ Only A and B
4. ✖ Only B and C

Question Number : 30 Question Type : MCQ
Correct : 1 Wrong : 0.33

A closed contour line with two or more higher contours inside it will represent a:

Options :

1. ✖ Depression
2. ✔ Hill
3. ✖ Cave
4. ✖ Well

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Question Number : 31 Question Type : MCQ
Correct : 1 Wrong : 0.33
In a wet soil mass, air occupies one-sixth of its volume and water occupies one-third of its volume. The void ratio of the soil is:
Options :
1. ✖ 0.25
2. ✖ 0.5
3. ✔ 1
4. ✖ 1.5

Question Number : 32 Question Type : MCQ
Correct : 1 Wrong : 0.33
In comparison to Atterberg limit of normal soils, the expansion soils have which of the following?
A. More liquid limit
B. Less plastic limit
C. Less shrinkage limit
D. More volumetric shrinkage
Options :
1. ✔ A, B, C and D
2. ✖ Only A, C and D
3. ✖ Only B and C
4. ✖ Only A, B and D

Question Number : 33 Question Type : MCQ
Correct : 1 Wrong : 0.33
For a given sandy soil whose soil grains are spherical in shape and of uniform size, the theoretical void ratio is:
Options :
1. ✖ 0.61
2. ✖ 0.71
3. ✔ 0.91
4. ✖ 0.81

Question Number : 34 Question Type : MCQ
Correct : 1 Wrong : 0.33
Assertion A: Permeability continues to decrease with the increase in dry density of a compacted soil.
Reason R: Soil particles in water surroundings may be mutually attracted or repulsed.

Which of the following is correct?
Options :
1. ✔ Both A and R are true and R is the correct explanation of A
2. ✖ Both A and R are true but R is not the correct explanation of A
3. ✖ A is true but R is false
4. ✖ A is false but R is true

Question Number : 35 Question Type : MCQ

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Correct : 1 Wrong : 0.33

Consider the following.

A. Initial consolidation
B. Primary consolidation
C. Secondary consolidation
D. Final consolidation

The three stages that would be relevant to consolidation of a soil deposit are:

Options :

1. ✔ A, B and C
2. ✖ B, C and D
3. ✖ A, C and D
4. ✖ A, B and D

Question Number : 36 Question Type : MCQ
Correct : 1 Wrong : 0.33

In a shear test on cohesionless soils, if the initial void ratio is less than the critical void ratio, the sample will:

Options :

1. ✖ Increase in volume
2. ✖ Initially increase in volume and then remain constant
3. ✖ Decrease in volume
4. ✔ Initially decrease and then increase in volume

Question Number : 37 Question Type : MCQ
Correct : 1 Wrong : 0.33

If the permeability of a soil is 0.8 mm/sec, the type of soil is:

Options :

1. ✖ Gravel
2. ✔ Sand
3. ✖ Silt
4. ✖ Clay

Question Number : 38 Question Type : MCQ
Correct : 1 Wrong : 0.33

Coefficient of consolidation for clays normally:

Options :

1. ✔ decreases with increase in liquid limit
2. ✖ increases with increase in liquid limit
3. ✖ first increases and then decreases with increase in liquid limit
4. ✖ remains constant at all liquid limits

Question Number : 39 Question Type : MCQ
Correct : 1 Wrong : 0.33

In the triaxial compression test, the application of additional axial stress on the soil specimen produces shear stress on:

Options :

1. ✖ Horizontal plane only
2. ✖ Vertical plane only

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3. ✖ Both horizontal and vertical planes

4. ✔ All planes except horizontal and vertical planes

Question Number : 40 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which of the following lists soils in increasing order of surface areas?

Options :

1. ✖ Silt, sand, colloids, clay

2. ✖ Sand, silt, colloids, clay

3. ✔ Sand, silt, clay, colloids

4. ✖ Clay, silt, sand, colloids

Question Number : 41 Question Type : MCQ
Correct : 1 Wrong : 0.33
For a sandy soil, the angle of internal friction is 30°. If the major principal stress is 50 kN/m² at failure, then the corresponding minor principal stress will be

Options :

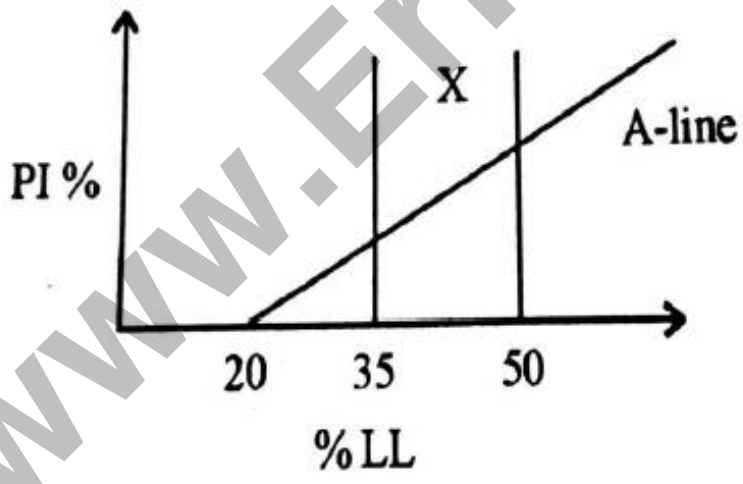
1. ✖ 12.2

2. ✔ 16.66

3. ✖ 20.8

4. ✖ 27.2

Question Number : 42 Question Type : MCQ
Correct : 1 Wrong : 0.33
The standard plasticity chart to classify fine grained soils is shown in the figure below.



What does the area marked 'X' represent?

Options :

1. ✖ Silt of low plasticity

2. ✖ Clay of high plasticity

3. ✖ Organic soil of medium plasticity

4. ✔ Clay of intermediate plasticity

Question Number : 43 Question Type : MCQ
Correct : 1 Wrong : 0.33
Approximately, what is the specific gravity of sands?

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Options :

1. ✖ 2
2. ✖ 2.2
3. ✖ 2.4
4. ✔ 2.6

Question Number : 44 Question Type : MCQ
Correct : 1 Wrong : 0.33

You are given a sample of soil containing coarse grains to determine its water content. What will you use for the purpose?

Options :

1. ✔ Pycnometer
2. ✖ Oven-drying method
3. ✖ Calcium carbide method
4. ✖ Alcohal method

Question Number : 45 Question Type : MCQ
Correct : 1 Wrong : 0.33

Match List I with List II and choose the correct answer from the options given below.

List I (Soil)	List II (Grain size)
A. Clay	a. 2.00 to 4.75 mm
B. Coarse sand	b. 0.002 to 0.075 mm
C. Fine Sand	c. 0.075 to 0.425 mm
D. Silt	d. 4.0 to 0.002 mm

Options :

1. ✖ A-a, B-c, C-d, D-b
2. ✖ A-b, B-a, C-c, D-d
3. ✔ A-d, B-a, C-c, D-b
4. ✖ A-c, B-a, C-b, D-d

Question Number : 46 Question Type : MCQ
Correct : 1 Wrong : 0.33

In a centrifugal pump casing, the flow of water leaving the impeller, is:

Options :

1. ✖ Rectilinear flow
2. ✖ Radial flow
3. ✔ Free vortex motion
4. ✖ Forced vortex

Question Number : 47 Question Type : MCQ
Correct : 1 Wrong : 0.33

Manning's formula is used for:

Options :

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1. ✖ Flow in open channels
2. ✔ Head loss due to friction in open channels
3. ✖ Head loss due to friction in pipes flowing full
4. ✖ Flow in pipes

Question Number : 48 Question Type : MCQ
Correct : 1 Wrong : 0.33
The velocity distribution of viscous fluid through a pipe is:

Options :
1. ✖ Hyperbolic
2. ✖ Circular
3. ✔ Parabolic
4. ✖ Elliptical

Question Number : 49 Question Type : MCQ
Correct : 1 Wrong : 0.33
The side slope of cipolletti weir is generally kept

Options :
1. ✔ 1 to 4
2. ✖ 1 to 3
3. ✖ 1 to 2
4. ✖ 1 to 5

Question Number : 50 Question Type : MCQ
Correct : 1 Wrong : 0.33
Match List I with List II and choose the correct answer from the options given below.

List I (Physical quantity)	List II (Dimension)
A. Angular velocity	a. L^2T^{-1}
B. Angular acceleration	b. T^{-1}
C. Discharge	c. T^{-2}
D. Kinematic viscosity	d. L^3T^{-1}

Options :
1. ✖ A-a, B-b, C-c, D-d
2. ✔ A-b, B-c, C-d, D-a
3. ✖ A-c, B-d, C-a, D-b
4. ✖ A-b, B-d, C-a, D-c

Question Number : 51 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which of the following fluids can be classified as non-newtonian?

Options :
1. ✖ Kerosene oil and Diesel oil

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2. ✔ Human blood and Toothpaste

3. ✖ Diesel oil and Water

4. ✖ Kerosene oil and Water

Question Number : 52 Question Type : MCQ
Correct : 1 Wrong : 0.33

Given that atmospheric pressure head = 9 m, vapour pressure head (max.) = 1 m, failure head = 40 m and cavitation coefficient $\sigma = 0.15$, the height at which the turbine can be set above the tail race level is:

Options :

1. ✖ 6 m

2. ✖ 4 m

3. ✖ 3 m

4. ✔ 2 m

Question Number : 53 Question Type : MCQ
Correct : 1 Wrong : 0.33

A high efficiency pump is required for low discharge, high head and low maintenance cost. Delivery of water need not be continuous. The pump need not run at high speed. Which one of the following is the correct choice?

Options :

1. ✖ Centrifugal pump

2. ✔ Reciprocating pump

3. ✖ Air lift pump

4. ✖ Hydraulic ram

Question Number : 54 Question Type : MCQ
Correct : 1 Wrong : 0.33

Assertion A: The efficiency of a reciprocating pump is 10-20 percent higher than that of a centrifugal pump for comparable discharge-head condition.

Reason R: The discharge from a reciprocating pump is dependent upon speed.

Which of the following is correct?

Options :

1. ✖ Both A and R are true and R is the correct explanation of A

2. ✔ Both A and R are true but R in not the correct explanation of A

3. ✖ A is true but R is false

4. ✖ A is false but R is true

Question Number : 55 Question Type : MCQ
Correct : 1 Wrong : 0.33

A rectangular open channel carries a discharge of 15 m^3/s when the depth of flow is 1.5 m and the bed slope is 1 : 1440. What will be the discharge through the channel at the same depth if the slope would have been 1 : 1000?

Options :

1. ✖ 21.6 m^3/s

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2. ✔ 18 m^3/s

3. ✖ 14.4 m^3/s

4. ✖ 12.5 m^3/s

Question Number : 56 Question Type : MCQ
Correct : 1 Wrong : 0.33
The horse power transmitted through a pipe is maximum when the ratio of loss of head due to friction to the total head supplied is:

Options :

1. ✔ $\frac{1}{3}$

2. ✖ $\frac{1}{4}$

3. ✖ $\frac{1}{2}$

4. ✖ $\frac{2}{3}$

Question Number : 57 Question Type : MCQ
Correct : 1 Wrong : 0.33
The critical state of flow through a channel section may be defined as the state of flow at which the:

Options :

1. ✖ specific energy is maximum for a given discharge.

2. ✖ specific force is maximum for a given discharge.

3. ✔ discharge is maximum for a given specific force.

4. ✖ discharge is minimum for a given specific energy.

Question Number : 58 Question Type : MCQ
Correct : 1 Wrong : 0.33
A turbine works at 20 m head and 500 rpm speed. Its 1 : 2 scale model to be tested at a head of 20 m should have a rotational speed of nearly

Options :

1. ✔ 1000 rpm

2. ✖ 700 rpm

3. ✖ 500 rpm

4. ✖ 250 rpm

Question Number : 59 Question Type : MCQ
Correct : 1 Wrong : 0.33
Consider the following statements.

A. Pumps in series operation allow the head to increase
B. Pumps in series operation increase the flow rate
C. Pumps in parallel operaton increase the flow rate
D. Pumps in parallel operation allow the head to increase

Which of these statements are correct?

Options :

1. ✔ A and C

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2. ✖ A and D

3. ✖ B and D

4. ✖ C and D

Question Number : 60 Question Type : MCQ
Correct : 1 Wrong : 0.33

Assertion A: The inlet velocity triangle for a Pelton turbine is a straight line.

Reason R: For a Pelton turbine, the vane angle at inlet is 180°.

Which of the following is correct?

Options :

1. ✔ Both A and R are true and R is the correct explanation of A

2. ✖ Both A and R are true but R in not the correct explanation of A

3. ✖ A is true but R is false

4. ✖ A is false but R is true

Question Number : 61 Question Type : MCQ
Correct : 1 Wrong : 0.33

The maximum permissible limit for flouride in drinking water is:

Options :

1. ✖ 0.1 mg/litre

2. ✔ 1.5 mg/litre

3. ✖ 5 mg/litre

4. ✖ 10 mg/litre

Question Number : 62 Question Type : MCQ
Correct : 1 Wrong : 0.33

Disinfection of water results in:

Options :

1. ✖ Removal of turbidity

2. ✖ Removal of hardness

3. ✔ Killing of disease bacteria

4. ✖ Complete sterilization

Question Number : 63 Question Type : MCQ
Correct : 1 Wrong : 0.33

Which is the most commonly used sewer under culverts?

Options :

1. ✔ Circular brick sewer

2. ✖ Circular cast iron sewer

3. ✖ Semi-elliptical sewer

4. ✖ Horse-shoe type sewer

Question Number : 64 Question Type : MCQ
Correct : 1 Wrong : 0.33

Dechlorination of water is achieved by adding

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Options :

1. ✔ Sodium thiosulphate
2. ✖ Sodium sulphate
3. ✖ Sodium hexametaphosphate
4. ✖ Sodium bisulphate

Question Number : 65 Question Type : MCQ
Correct : 1 Wrong : 0.33

From the list of treatments given below, which treatments reduce salinity of water?

A. Flash mixing and sedimentation
B. Electrodialysis
C. Reverse osmosis
D. Freezing
E. Filtration

Choose the correct answer.

Options :

1. ✖ A, B, C, D and E
2. ✔ B, C, and D
3. ✖ A, C and E
4. ✖ A, B and D

Question Number : 66 Question Type : MCQ
Correct : 1 Wrong : 0.33

Which of the following processes takes place in trickling filters?

Options :

1. ✖ Filtration
2. ✖ Oxidation
3. ✖ Disinfection
4. ✔ Biological action

Question Number : 67 Question Type : MCQ
Correct : 1 Wrong : 0.33

Traps are used in household drainage systems to:

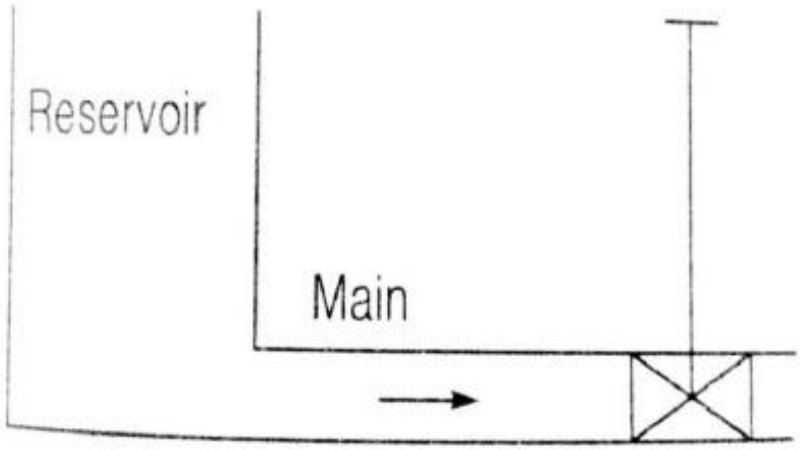
Options :

1. ✔ prevent entry of fond gases in the houses
2. ✖ restrict the flow of water
3. ✖ provide partial vacuum
4. ✖ trap the solid wastes

Question Number : 68 Question Type : MCQ
Correct : 1 Wrong : 0.33

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The following sketch shows a water supply main from a storage reservoir provided with a sluice valve.



The type of valve most suitable for this pipeline is:

Options :

1. ✖ Air valve
2. ✖ Scour valve
3. ✔ Pressure relief valve
4. ✖ Check valve

Question Number : 69 Question Type : MCQ
Correct : 1 Wrong : 0.33

Consider the following valves in a water distribution system.

A. Check valve
B. Pressure-reducing valve
C. Air relief valve
D. Scour valve
E. Sluice valve

Which of these work automatically?

Options :

1. ✖ A, C and D
2. ✖ B, D and E
3. ✖ C, D and E
4. ✔ A, B and C

Question Number : 70 Question Type : MCQ
Correct : 1 Wrong : 0.33

Which of the following filters will produce water of higher bacteriological quality?

Options :

1. ✖ Slow sand filter
2. ✖ Rapid sand filter
3. ✖ Pressure filter
4. ✔ Dual media filter

Question Number : 71 Question Type : MCQ

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Correct : 1 Wrong : 0.33

For a colony of 10,000 persons having sewage flow rate of 200 L/capita/day, BOD of applied sewage of 300 mg/L and organic loading of 300 kg/day/hectare, the area of an oxidation pond required for treating the sewage of the colony is:

Options :

1. ✖ 0.2 hectares
2. ✖ 1 hectare
3. ✔ 2 hectares
4. ✖ 6 hectares

Question Number : 72 Question Type : MCQ

Correct : 1 Wrong : 0.33

When waste water is disposed off into a running stream, four zones are formed. In which of the following zones will the minimum level of dissolved oxygen be found?

Options :

1. ✖ Zone of degradation
2. ✔ Zone of active decomposition
3. ✖ Zone of recovery
4. ✖ Zone of clear water

Question Number : 73 Question Type : MCQ

Correct : 1 Wrong : 0.33

In sewers designed with self cleaning velocity,

Options :

1. ✖ the bottom is silted
2. ✖ the bottom is scoured
3. ✖ both silting and scouring occur at the bottom
4. ✔ neither silting nor scouring occurs at the bottom

Question Number : 74 Question Type : MCQ

Correct : 1 Wrong : 0.33

The pH value of fresh sewage is usually:

Options :

1. ✖ Equal to 7
2. ✖ More than 7
3. ✔ Less than 7
4. ✖ Equal to zero

Question Number : 75 Question Type : MCQ

Correct : 1 Wrong : 0.33

The laying of sewers is done with:

Options :

1. ✖ Magnetic compass
2. ✖ Theodolite
3. ✔ Level
4. ✖ Plane table

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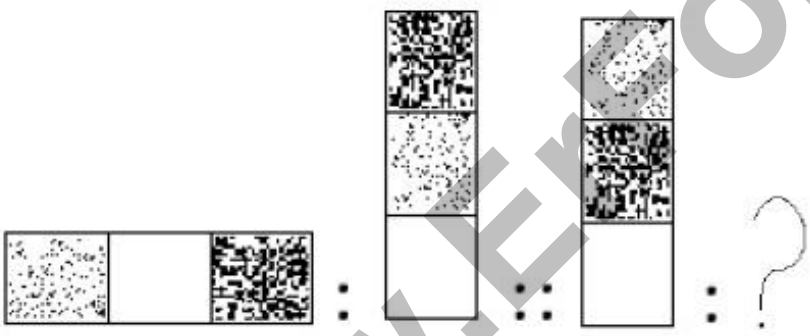
Mandatory or Optional: Mandatory

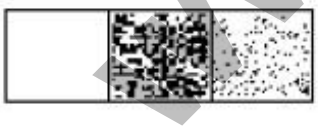
Question Number : 76 Question Type : MCQ
Correct : 1 Wrong : 0.33
The first two letter clusters on the left side of the sign '::' are related in a certain way. The same relationship holds for the second pair of letter clusters on the right side of the sign '::', of which one is missing. Which of the following is the missing one?

BHDF : YPVS : : ? : XRVT

Options :
1. ✖ DGEF
2. ✔ CFDE
3. ✖ CIEG
4. ✖ FCED

Question Number : 77 Question Type : MCQ
Correct : 1 Wrong : 0.33
The first two figures on the left side of the sign '::' are related in a certain way. The same relationship holds for the second pair of figures on the right side of the sign '::', of which one is missing. Which of the following is the missing one?



Options :
1. ✔ 
2. ✖ 
3. ✖ 
4. ✖ 

Question Number : 78 Question Type : MCQ
Correct : 1 Wrong : 0.33

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Which number will replace the question mark in the following number series?

28, 22, 32, 17, 37, 13, ?

Options :

1. ✖ 42
2. ✖ 27
3. ✖ 45
4. ✔ 43

Question Number : 79 Question Type : MCQ
Correct : 1 Wrong : 0.33

A mixture of 220 litres contains milk and water in the ratio of 7 : 4. How much water is to be added to the mixture to reverse the ratio of milk and water in the mixture?

Options :

1. ✖ 145 litres
2. ✖ 150 litres
3. ✔ 165 litres
4. ✖ 175 litres

Question Number : 80 Question Type : MCQ
Correct : 1 Wrong : 0.33

B is the sister of D, who is the father of R. R is S's brother and E is the husband of S.

Which of the following statements is true?

Options :

1. ✔ B is the aunt of S
2. ✖ E is the brother-in-law of B
3. ✖ R is the cousin of E
4. ✖ B is the niece of S

Question Number : 81 Question Type : MCQ
Correct : 1 Wrong : 0.33

Four words are given below out of which three are alike in some manner and one is different. Which of the given words is different from the other three?

Options :

1. ✖ Tiger
2. ✖ Lion
3. ✔ Alligator
4. ✖ Leopard

Question Number : 82 Question Type : MCQ
Correct : 1 Wrong : 0.33

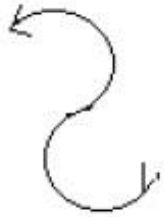
Four figures are given below out of which three are similar in a certain way and one is different. Which of the given figures is different from the other three?

Options :

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1. ✖ 

2. ✖ 

3. ✖ 

4. ✔ 

Question Number : 83 Question Type : MCQ
Correct : 1 Wrong : 0.33
Among 5 items, A weighs half as much as E. B weighs three and half times as much as D. C weighs half as much as B and one and half times as much as A.

Which of the following is the descending order of the weights of the items?

Options :

1. ✖ DACEB
2. ✔ BECAD
3. ✖ BECDA
4. ✖ DAECB

Question Number : 84 Question Type : MCQ
Correct : 1 Wrong : 0.33
If 'JUDGEMENT' is written as 'UTNMJGEED' in a certain language, how would 'CURIOSITY" be written in the language?

Options :

1. ✖ YUTSORIIC
2. ✔ YUTSROIIC
3. ✖ UYSTROIIC
4. ✖ YUSTROIIC

Question Number : 85 Question Type : MCQ
Correct : 1 Wrong : 0.33

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Each of the following two rows contains 3 numbers. Some rules are given below to be used for getting the resultant for each row separately. Apply the rules for each row from left to right and answer the question.

Rules:

(i) If an even number is followed by an odd but not prime number, both are to be multiplied.
(ii) If an even number is followed by a prime number, both are to be added.
(iii) If an odd number is followed by a composite odd number, the first number is to be subtracted from the square of the second number.
(iv) If an odd number is followed by an even number, the odd one is to be subtracted from the even number.

Row I: 14, 9, 23

Row II: 17, 21, 11

What is the difference between the resultants of the first row and the second row?

Options :

1. ✖ 176
2. ✖ 357
3. ✔ 286
4. ✖ 384

Computer Applications

Mandatory or Optional: Mandatory

Question Number : 86 Question Type : MCQ
Correct : 1 Wrong : 0.33

Which of the following coordinates operations using timing signals?

Options :

1. ✔ Control unit
2. ✖ Memory unit
3. ✖ I/O unit
4. ✖ ALU

Question Number : 87 Question Type : MCQ
Correct : 1 Wrong : 0.33

Which of the following softwares merges the records from two files into one?

Options :

1. ✖ Security software
2. ✖ Networking software

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3. ✔ Utility program

4. ✖ Documentation program

Question Number : 88 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which of the following is an input device and an output device at the same time?

Options :

1. ✖ Touch screen

2. ✖ Audio card

3. ✔ Modem

4. ✖ LCD projector panels

Question Number : 89 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which of the following is not application software?

Options :

1. ✖ Word processor

2. ✖ Database

3. ✖ Browser

4. ✔ Device driver

Question Number : 90 Question Type : MCQ
Correct : 1 Wrong : 0.33
What is the bandwidth required for a broadband Internet connection?

Options :

1. ✖ 1.128 kbps

2. ✔ 2.256 kbps

3. ✖ 3.512 kbps

4. ✖ 4028 kbps

Question Number : 91 Question Type : MCQ
Correct : 1 Wrong : 0.33
The decimal equivalent of the binary number $(0.10110101)_2$ is:

Options :

1. ✖ $(0.37)_{10}$

2. ✖ $(0.875)_{10}$

3. ✔ $(0.70703125)_{10}$

4. ✖ $(85)_{10}$

Question Number : 92 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which button should be chosen to create an Excel chart out of selected cells?

Options :

1. ✖ F3

2. ✖ F5

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3. ✖ F7

4. ✔ F11

Question Number : 93 Question Type : MCQ
Correct : 1 Wrong : 0.33
From which menu one can insert Header and Footer into a Word document?

Options :

1. ✔ View

2. ✖ Format

3. ✖ Tools

4. ✖ Insert

Question Number : 94 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which of the following is meant foe viewing web pages?

Options :

1. ✖ Website

2. ✔ Browser

3. ✖ OS

4. ✖ Interpreter

Question Number : 95 Question Type : MCQ
Correct : 1 Wrong : 0.33
Which of the following is best-suited for remote administration of a computer?

Options :

1. ✖ HTML

2. ✖ WAIS

3. ✖ Browser

4. ✔ Telnet

GK / Awareness

Mandatory or Optional: Mandatory

Question Number : 96 Question Type : MCQ
Correct : 1 Wrong : 0.33
The famous Khajuraho temples were built by:

Options :

1. ✖ Scindias

2. ✖ Bundela

3. ✔ Chandela

4. ✖ Holkars

Question Number : 97 Question Type : MCQ
Correct : 1 Wrong : 0.33

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The northern part of the west coast of India is known as:

Options :

1. ✖ Coromandal coast
2. ✖ Malabar coast
3. ✔ Konkan coast
4. ✖ Bengal coast

Question Number : 98 Question Type : MCQ
Correct : 1 Wrong : 0.33
Who is the founder of Indian Institute of Science, Bangalore?

Options :

1. ✔ Jamsetji Tata
2. ✖ CV Raman
3. ✖ Vikram Sarabhai
4. ✖ Vishveshvarayya

Question Number : 99 Question Type : MCQ
Correct : 1 Wrong : 0.33
Who among the following is not a recipient of Bharat Ratna?

Options :

1. ✖ Mrs. Indira Gandhi
2. ✖ Lal Bahadur Shastri
3. ✖ Dr. S.Radhakrishnan
4. ✔ Netaji Subhash Chandra Bose

Question Number : 100 Question Type : MCQ
Correct : 1 Wrong : 0.33
BCG vaccination (Bacillus Calmette Guerine) is injected to get immunity from:

Options :

1. ✖ Cholera
2. ✔ Tuberculosis
3. ✖ Jaundice
4. ✖ Polio

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