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UPPCL AE (Civil)

Previous Year Paper
31 Oct, 2022 Shift 1





UTTAR PRADESH POWER CORPORATION LTD.

Participant ID	
Participant Name	
Test Center Name	
Test Date	31/10/2022
Test Time	9:00 AM - 12:00 PM
Subject	AE CIVIL

Section : Domain Knowledge

Q.1 Let a random variable X follow Poisson distribution such that probability of $x = 2$ is same as the probability of $x = 1$, then the value of $\text{prob}(x=3)$ rounded off to two decimal places is:

- Ans ☒ A. 0.17 – 0.19
- ☐ B. 17.0 – 19.0
- ☐ C. 1.7 – 1.9
- ☐ D. 0.71 – 0.91

Question ID : 8401603744
Status : Answered
Chosen Option : D

Q.2 Who designed and developed the Jodhpur Permeameter?

- Ans ☐ A. Sir M Visvesvaraya
- ☐ B. Terzaghi
- ☐ C. JC Bose
- ☒ D. Alam Singh

Question ID : 8401603846
Status : Answered
Chosen Option : D

Q.3 Rigidity factor is defined as:

- Ans ☐ A. sum of contact pressure and tyre pressure
- ☐ B. ratio of tyre pressure to contact pressure
- ☐ C. product of contact pressure and tyre pressure
- ☒ D. ratio of contact pressure to tyre pressure

Question ID : 8401603759
Status : Answered
Chosen Option : D

Q.4 _____ is a phytotoxic air pollutant produced due to interaction of hydrocarbons and nitrogen oxides under the action of light.

- Ans
- ☒ A. Benzene disulphonic acid
 - ☒ B. Peroxydisulfuric acid
 - ☒ C. Benzene sulphonic acid
 - ☒ D. Peroxyacetyl nitrate

Question ID : 8401603812
Status : Answered
Chosen Option : D

Q.5 वायु प्रदूषकों के कारण पत्ती का पीला पड़ना क्या कहलाता है?

- Ans
- ☒ A. रेशायता (fibrosis)
 - ☒ B. ऊतकक्षय (necrosis)
 - ☒ C. मरुउद्यान (oasis)
 - ☒ D. हरितरोग (chlorosis)

Question ID : 8401603813
Status : Answered
Chosen Option : C

Q.6 The Laplace Transform of the $f(t) = e^{2t}$ for $t \geq 0$ and 0 for $t < 0$ is given by:

- Ans
- ☒ A. $\frac{1}{s-2}$ for $Re(s) > 2$
 - ☒ B. $\frac{1}{s+2}$ for $Re(s) > 2$
 - ☒ C. $\frac{1}{s+2}$ for $Re(s) < 2$
 - ☒ D. $\frac{1}{s-2}$ for $Re(s) < 2$

Question ID : 8401603754
Status : Answered
Chosen Option : D

Q.7 The highest depth of rainfall that can occur in a given duration at a given location is known as:

- Ans
- ☒ A. probable maximum precipitation
 - ☒ B. missing precipitation
 - ☒ C. mean precipitation
 - ☒ D. average precipitation

Question ID : 8401603711
Status : Answered
Chosen Option : A

Q.8 The function $f(x)=x^3-6x^2+9x+25$ has:

- Ans
- ☐ A. a maximum at $x=1$, but no minimum
 - ☐ B. no maximum, but a minimum at $x=3$
 - ☐ C. a maximum at $x=3$ and a minimum at $x=1$
 - ☒ D. A maximum at $x=1$ and a minimum at $x=3$

Question ID : 8401603752
Status : Answered
Chosen Option : A

Q.9 Select the INCORRECT statement.

- Ans
- ☐ A. Porous beds of trickling filters have to be changed periodically due to clogging.
 - ☐ B. As wastewater trickles, aerosols are formed in trickling filters that help in the spread of pathogen.
 - ☒ C. Microbial film layer is not formed in trickling filters.
 - ☐ D. Trickling filters lowers (BOD f) wastewater by 75–85%.

Question ID : 8401603727
Status : Answered
Chosen Option : C

Q.10 _____ are recommended to avoid manual unloading at processing plants or disposal sites.

- Ans
- ☐ A. Hook lifters
 - ☒ B. Simple hydraulic tipping trailers
 - ☐ C. Skip trucks
 - ☐ D. Compactor trucks

Question ID : 8401603819
Status : Answered
Chosen Option : B

Q.11 Which of these differential equations is NOT exact?

- Ans
- ☐ A. $(e^y + 1)\cos x dx + e^y \sin x dy = 0$
 - ☒ B. $x^2 y dx - (x^3 + y^3) dy = 0$
 - ☐ C. $(xy^2 + x) + yx^2 y_1 = 0$
 - ☐ D. $xy_1 + y = 0$

Question ID : 8401603839
Status : Answered
Chosen Option : B

Q.12 The line which joins the points of equal atmospheric pressure in a barograph is:

- Ans ☒ A. an isobar
- ☒ B. an isotherm
- ☒ C. a pressurebar
- ☒ D. a millibar

Question ID : 8401603708
Status : Answered
Chosen Option : A

Q.13 Fluid motion is described by the _____.

- Ans ☒ A. kinematics method
- ☒ B. thermodynamic method
- ☒ C. three dimension flow method
- ☒ D. Eulerian method

Question ID : 8401603702
Status : Answered
Chosen Option : A

Q.14 'The efficiency of a fan η depends on angular velocity, dynamic viscosity, discharge, density and diameter of the rotor'. According to Buckingham's π thermo, how many variables are there in this statement?

- Ans ☒ A. 5
- ☒ B. 3
- ☒ C. 4
- ☒ D. 6

Question ID : 8401603775
Status : Answered
Chosen Option : C

Q.15 For bars in compression, the bond stress has to be increased by____ as per IS 456-2000.

- Ans ☒ A. 25%
- ☒ B. 30%
- ☒ C. 5%
- ☒ D. 20%

Question ID : 8401603716
Status : Answered
Chosen Option : A

Q.16 Which of these is NOT an operation done in a triangulation survey?

- Ans
- ☐ A. Erection of signals and towers
 - ☐ B. Computations
 - ☐ C. Whole to part
 - ☒ D. Geo positioning of location point

Question ID : 8401603825
Status : Answered
Chosen Option : D

Q.17 Permanent hardness causing salts in water are:

- Ans
- ☒ A. sulphates and chlorides of calcium and magnesium
 - ☐ B. bicarbonates and carbonates of calcium and magnesium
 - ☐ C. bicarbonates and carbonates of calcium and manganese
 - ☐ D. sulphates and chlorides of calcium and manganese

Question ID : 8401603805
Status : Answered
Chosen Option : A

Q.18 Raster images are constructed through:

- Ans
- ☒ A. pixels
 - ☐ B. lines
 - ☐ C. curves
 - ☐ D. fills

Question ID : 8401603836
Status : Answered
Chosen Option : A

Q.19 A steel bar is 2000 mm long is 16mm in diameter for half the length and 12 mm in diameter for the other half of the length. Find the extension of the bar when subjected to tensile force of 20000 N. Consider E=200GPa.

- Ans
- ☐ A. 13.7 mm
 - ☒ B. 1.37 mm
 - ☐ C. 137.0 mm
 - ☐ D. 0.137 mm

Question ID : 8401603795
Status : Answered
Chosen Option : B

Q.20 The moist air masses are lifted up to higher altitudes due to the presence of mountain barriers and the moist air undergoes cooling, condensation and precipitation. Such kind of precipitation is called:

- Ans
- ☐ A. Cyclonic precipitation
 - ☐ B. convective precipitation
 - ☐ C. adiabatic precipitation
 - ☒ D. orographic precipitation

Question ID : 8401603780
Status : Answered
Chosen Option : D

Q.21 Which of the following types of chains consists of 16 links each link being $2\frac{1}{16}$ long?

- Ans
- ☐ A. Engineer's chain
 - ☐ B. Surveyor's chain
 - ☒ C. Revenue chain
 - ☐ D. Metric chain

Question ID : 8401603736
Status : Answered
Chosen Option : C

Q.22 Which unit in total station processes the data collected?

- Ans
- ☒ A. Microprocess
 - ☐ B. Data collector
 - ☐ C. EDM
 - ☐ D. Storage system

Question ID : 8401603741
Status : Answered
Chosen Option : A

Q.23 The specific volume is the reciprocal of:

- Ans
- ☐ A. weight of fluid
 - ☒ B. mass density
 - ☐ C. mass of a fluid
 - ☐ D. velocity of fluid

Question ID : 8401603784
Status : Answered
Chosen Option : B

Q.24 The recommended value of weaving length in a rotary intersection for a design speed of 40 km/h is_____.

- Ans
- ☒ A. 30-60 m
 - ☒ B. 45-90 m
 - ☒ C. 20-40 m
 - ☒ D. 90-110 m

Question ID : 8401603766
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.25 Which of the following is NOT a principal method of traversing?

- Ans
- ☒ A. Plane table traversing
 - ☒ B. Tight needle traversing
 - ☒ C. Chain traversing
 - ☒ D. Loose needle method

Question ID : 8401603737
Status : Answered
Chosen Option : C

Q.26 In the most economical section of rectangular channel the hydraulic mean depth is:

- Ans
- ☒ A. half of the depth of flow
 - ☒ B. $\frac{1}{3}$ the depth of flow
 - ☒ C. equal to depth of flow
 - ☒ D. twice the depth of flow

Question ID : 8401603705
Status : Answered
Chosen Option : A

Q.27 In which of the following stages of sludge digestion are volatile organic acids and nitrogenous compounds converted into acid carbonates and ammonia compounds?

- Ans
- ☒ A. Acid production stage
 - ☒ B. Alkaline fermentation stage
 - ☒ C. Acid regression stage
 - ☒ D. Acid rejuvenation stage

Question ID : 8401603729
Status : Answered
Chosen Option : C

Q.28 Under identical conditions, if the infiltration capacity measured by double ring infiltrometer is f_d and that measured by a rainfall simulator is f_s , then which of the following is true?

- Ans
- ☒ A. $f_s > f_d$
 - ☐ B. $f_s = -f_d$
 - ☐ C. $f_s = f_d$
 - ☐ D. $f_d > f_s$

Question ID : 8401603782
Status : Answered
Chosen Option : D

Q.29 A soil sample in its natural state has a water content of 25%, when it is fully saturated. Void ratio of tested soil sample = _____. Take specific gravity of tested soil sample as 2.5.

- Ans
- ☐ A. 0.475
 - ☐ B. 0.826
 - ☒ C. 0.625
 - ☐ D. 0.765

Question ID : 8401603764
Status : Answered
Chosen Option : C

Q.30 A fluid that has no viscosity and is incompressible in nature is _____ fluid.

- Ans
- ☐ A. Newtonian
 - ☐ B. real
 - ☒ C. ideal
 - ☐ D. viscous

Question ID : 8401603783
Status : Answered
Chosen Option : C

Q.31 A longitudinal system used to prevent an errant vehicle from crossing the portion of a divided highway separating the travelled ways for traffic in the opposite direction is known as:

- Ans
- ☐ A. gutters
 - ☐ B. guard rails
 - ☒ C. median barriers
 - ☐ D. curb

Question ID : 8401603771
Status : Answered
Chosen Option : C

Q.32 Which type of drains are used to relieve pore pressures at slopes of cuts and embankments on the highway?

- Ans
- ☒ A. Longitudinal drains
 - ☒ B. Horizontal drains
 - ☒ C. Drainage blankets
 - ☒ D. Transverse drains

Question ID : 8401603772
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.33 Excess of nitrate in drinking water leads to:

- Ans
- ☒ A. sclerosis
 - ☒ B. methemoglobinemia
 - ☒ C. Alzheimer's
 - ☒ D. Minamata

Question ID : 8401603801
Status : Answered
Chosen Option : B

Q.34 Estimate the theoretical capacity of a traffic lane with one way traffic flow at a stream speed of 40km/h. Take minimum space headway in traffic stream as 11.5 m.

- Ans
- ☒ A. 1658 veh/hr/lane
 - ☒ B. 2264 veh/hr/lane
 - ☒ C. 4365 veh/hr/lane
 - ☒ D. 3479 veh/hr/lane

Question ID : 8401603767
Status : Answered
Chosen Option : D

Q.35 Which of the following statements regarding the flexible pavement is INCORRECT?

- Ans
- ☒ A. Temperature changes induce heavy stresses.
 - ☒ B. Consists of a series of layers with the highest quality at or near the surface.
 - ☒ C. Stability depends upon aggregate interlock, particle friction and cohesion.
 - ☒ D. Reflects deformations of subgrade and subsequent layers on the surface.

Question ID : 8401603758
Status : Answered
Chosen Option : A

Q.36 As per Indian Railway Standards, a diamond crossing shall consist of _____ noses.

- Ans ☒ A. 3
☒ B. 12
☒ C. 6
☒ D. 9

Question ID : 8401603768
Status : Answered
Chosen Option : C

Q.37 The analysis of solid waste to determine the proportion of carbon, hydrogen, oxygen, nitrogen and sulphur is called:

- Ans ☒ A. calculative analysis
☒ B. proximate analysis
☒ C. proportionate analysis
☒ D. ultimate analysis

Question ID : 8401603818
Status : Answered
Chosen Option : B

Q.38 A fluid is said to be laminar when:

- Ans ☒ A. the fluid particles move parallel to the boundary
☒ B. the fluid particles move in a perpendicular direction
☒ C. the Reynolds number is high
☒ D. the density of the fluid changes from point to point

Question ID : 8401603703
Status : Answered
Chosen Option : A

Q.39 Two beams having same length same bending stresses are subjected to the same maximum bending moment but one being circular section with diameter 'd' and another being square with side 'b'. Find the ratio area of the circular section to the square section.

- Ans ☒ A. 1.5
☒ B. 1.11
☒ C. 1.0
☒ D. 0.80

Question ID : 8401603797
Status : Answered
Chosen Option : B

Q.40 Which of the following is the criteria for selection of triangulation figures?

- Ans ☒ A. Complex figures should not involve more than about twelve conditions.
- ☒ B. The figure should be such that maximum work may secure minimum progress.
- ☒ C. The figure should not be a well-conditioned.
- ☒ D. All lines in a figure should be very long.

Question ID : 8401603824
Status : Answered
Chosen Option : A

Q.41 For which purpose of survey is the scale of 1cm = 5m to 0.5km used?

- Ans ☒ A. Location surveys
- ☒ B. Town planning
- ☒ C. Building sites
- ☒ D. Cadastral maps

Question ID : 8401603734
Status : Answered
Chosen Option : C

Q.42 Which of the following is NOT a stage of idealized remote sensing system?

- Ans ☒ A. Airborne sensors receiving the reflected and emitted energy
- ☒ B. No energy interaction with earth's surface
- ☒ C. Multiple data users
- ☒ D. Energy source

Question ID : 8401603828
Status : Answered
Chosen Option : B

Q.43 As per National Air Quality Standards, 24-hour mean concentration of PM₁₀ in ambient air in industrial, residential, rural and other areas should NOT exceed:

- Ans ☒ A. 100 µg/m³
- ☒ B. 80 µg/m³
- ☒ C. 120 µg/m³
- ☒ D. 90 µg/m³

Question ID : 8401603816
Status : Not Answered
Chosen Option : --

Q.44 As per CPCB, the effluent discharge standards for nitrate nitrogen in to inland surface water should NOT be more than:

- Ans
- ☐ A. 20 mg/L
 - ☐ B. 15 mg/L
 - ☐ C. 5 mg/L
 - ☒ D. 10 mg/L

Question ID : 8401603728
Status : Answered
Chosen Option : A

Q.45 For real values of x, the minimum value of the function $f(x)=\exp(x)+\exp(-x)$ is:

- Ans
- ☐ A. 1
 - ☐ B. 0.5
 - ☒ C. 2
 - ☐ D. 0

Question ID : 8401603751
Status : Answered
Chosen Option : C

Q.46 In air pollution control, the spray tower wet scrubbers, polluted gas flows:

- Ans
- ☐ A. horizontally
 - ☐ B. downwards
 - ☒ C. upwards
 - ☐ D. diagonally

Question ID : 8401603814
Status : Answered
Chosen Option : A

Q.47 The flexural strength of concrete is given by:

- Ans
- ☐ A. $0.5 \sqrt{f_{ck}}$
 - ☐ B. $5700 \sqrt{f_{ck}}$
 - ☐ C. $5000 \sqrt{f_{ck}}$
 - ☒ D. $0.7 \sqrt{f_{ck}}$

Question ID : 8401603718
Status : Answered
Chosen Option : D

Q.48 The Government of India launched the Swachh Bharat Mission on:

- Ans ☒ A. 2 June 2014
- ☐ B. 2 October 2014
- ☐ C. 2 June 2013
- ☐ D. 2 October 2015

Question ID : 8401603821
Status : Answered
Chosen Option : B

Q.49 Read the given statements and select the most appropriate option.

Statements:

- [A] The neutral axis passes through the centroid of the beam section when material follows Hooke's law; and,
[B] The beam section is not subjected to any longitudinal force.

- Ans ☐ A. Statement [A] is false but [B] is true.
- ☐ B. Statements [A] and [B] both are false.
- ☐ C. Statement [A] is true but [B] is false.
- ☒ D. Statements [A] and [B] both are true.

Question ID : 8401603796
Status : Answered
Chosen Option : B

Q.50 Vertical photography was taken at an altitude of 1000 m above the mean sea level. Determine the scale of the photograph for terrain lying at elevation of 100 m if the focal length of the camera is 20 cm.

- Ans ☒ A. $\frac{1}{4500}$
- ☐ B. $\frac{1}{4000}$
- ☐ C. $\frac{1}{2500}$
- ☐ D. $\frac{1}{2000}$

Question ID : 8401603832
Status : Answered
Chosen Option : A

Q.51

The radius of curvature of the curve $y = a \cosh\left(\frac{x}{a}\right)$ is:

Ans

☐ A. $\frac{y^3}{a}$

☐ B. $\frac{a}{y^2}$

☒ C. $\frac{y^2}{a}$

☐ D. $\frac{y}{a^2}$

Question ID : 8401603845

Status : Answered

Chosen Option : B

Q.52 If r is the radius of a circle, then the radius of curvature() of the circle is:

Ans

☐ A. r^2

☐ B. $2r$

☒ C. r

☐ D. p

Question ID : 8401603844

Status : Answered

Chosen Option : D

Q.53

The trace of the matrix $\begin{pmatrix} 1 & 1 & 3 \\ 1 & 5 & 1 \\ 3 & 1 & 1 \end{pmatrix}$ is:

Ans

☐ A. 18

☐ B. 5

☐ C. 9

☒ D. 7

Question ID : 8401603747

Status : Answered

Chosen Option : D

Q.54 Select the Inverse Laplace transform of $\frac{a}{(s-b)^2 - a^2}$.

- Ans
- ☐ A. $e^{-bt} \cosh at$
 - ☐ B. $e^{at} \sin bt$
 - ☐ C. $e^{bt} \sin at$
 - ☒ D. $e^{bt} \sinh at$

Question ID : 8401603755
Status : Answered
Chosen Option : D

Q.55 Which is the most commonly used chemical compound in inorganic chemical conditioning of sludge?

- Ans
- ☒ A. Ferric chloride
 - ☐ B. Sodium carbonate
 - ☐ C. Magnesium bicarbonate
 - ☐ D. Ferric hydroxide

Question ID : 8401603810
Status : Answered
Chosen Option : A

Q.56 Calculate the extra widening to be provided for a pavement on a horizontal curve of radius 250 m.
Take wheel base length of vehicle as 7.0 m, design speed 70 km/h and width of pavement as 7m.

- Ans
- ☐ A. 0.55 m
 - ☐ B. 0.78 m
 - ☒ C. 0.66 m
 - ☐ D. 0.46 m

Question ID : 8401603765
Status : Answered
Chosen Option : C

Q.57 The best method for disposal of refuse to ensure complete destruction of pathogenic bacteria is by:

- Ans
- ☐ A. sanitary landfills
 - ☐ B. vermicomposting
 - ☐ C. hog feeding
 - ☒ D. incineration

Question ID : 8401603733
Status : Answered
Chosen Option : D

Q.58 A normal distribution curve is:

- Ans ☒ A. a straight line
- ☒ B. a line symmetrical with respect to origin
- ☒ C. bell shaped
- ☒ D. triangular shaped

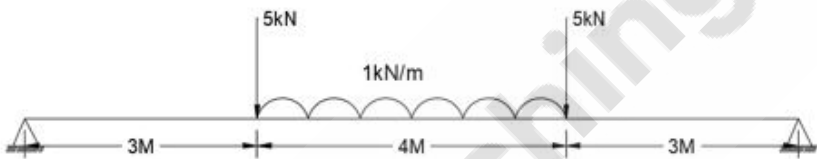
Question ID : 8401603838
Status : Answered
Chosen Option : C

Q.59 What is the average triangle closure of a primary triangulation?

- Ans ☒ A. Less than 1 second
- ☒ B. 3 seconds
- ☒ C. Less than 4 seconds
- ☒ D. 2 seconds

Question ID : 8401603834
Status : Answered
Chosen Option : B

Q.60 Max shear force and its location in the given diagram is:



- Ans ☒ A. 5kN, below point load
- ☒ B. 5kN, at support
- ☒ C. 7kN, at mid section
- ☒ D. 7kN, at support

Question ID : 8401603720
Status : Answered
Chosen Option : D

Q.61 The dosing of water with a high dose of chlorine, often much larger than the usual condition of the water demands is termed as:

- Ans ☒ A. super chlorination
- ☒ B. massive chlorination
- ☒ C. double chlorination
- ☒ D. ultra-chlorination

Question ID : 8401603802
Status : Answered
Chosen Option : A

Q.62 _____ is a hypogeal biological layer formed on the surface of a slow sand filter.

- Ans ☒ A. Schmancy
☒ B. Schmutzdecke
☒ C. Schneider
☒ D. schmuck

Question ID : 8401603724
Status : Answered
Chosen Option : B

Q.63 The value of the integral $\int_{-\infty}^{\infty} \frac{dx}{1+x^2}$ is:

- Ans ☒ A. $\frac{\pi}{2}$
☒ B. $-\frac{\pi}{2}$
☒ C. $-\pi$
☒ D. π

Question ID : 8401603749
Status : Answered
Chosen Option : D

Q.64 Which of the following types of soils is a fibrous aggregate of finer fragments of decayed vegetable matter?

- Ans ☒ A. Marl
☒ B. Peat
☒ C. Loam
☒ D. Shale

Question ID : 8401603763
Status : Answered
Chosen Option : B

Q.65 Lyrimeter is an instrument to measure:

- Ans ☒ A. evaporation
☒ B. evapotranspiration
☒ C. infiltration
☒ D. rain fall intensity

Question ID : 8401603715
Status : Answered
Chosen Option : B

Q.66 What is the recommended PCU (Passenger Car Unit) value for a large bullock cart (by IRC)?

- Ans ☒ A. 3
☒ B. 6
☒ C. 4
☒ D. 8

Question ID : 8401603761
Status : Answered
Chosen Option : D

Q.67 In which phase of the study in the highway location process are the positions of the feasible routes set as closely as possible by establishing all the control points and determining preliminary vertical and horizontal alignments for each?

- Ans ☒ A. Preliminary location survey
☒ B. Reconnaissance survey
☒ C. Final location survey
☒ D. Office study of existing information

Question ID : 8401603769
Status : Answered
Chosen Option : A

Q.68 Find the differential equation of all conics whose axes coincide with axes of coordinates.

- Ans ☒ A. $xy_2 + xy_1^2 - yy_1 = 0$
☒ B. $xyy_2 + xy_1^2 - yy_1 = 0$
☒ C. $xy_2 + xy_1^2 + yy_1 = 0$
☒ D. $yy_2 - xyy_1 + xy_1^2 = 0$

Question ID : 8401603841
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.69 Among these triangulations which has highest order and most precise control points:

- Ans ☒ A. Fourth order
☒ B. Third order
☒ C. First order
☒ D. Second order

Question ID : 8401603823
Status : Answered
Chosen Option : C

Q.70 Pascal's law states –intensity of pressure for a fluid at rest is:

- Ans ☒ A. pressure is unequal in the opposite direction
- ☒ B. equal in all directions
- ☒ C. equal in the opposite direction
- ☒ D. unequal in all directions

Question ID : 8401603774
Status : Answered
Chosen Option : B

Q.71

The eigen values of $A = \begin{pmatrix} 1 & 0 & 0 \\ 2 & 3 & 1 \\ 0 & 2 & 4 \end{pmatrix}$ is:

- Ans ☒ A. 1, 2, 5
- ☒ B. $\lambda = 1, -2, 7$
- ☒ C. -1, 2, 7
- ☒ D. 1, 2, 7

Question ID : 8401603745
Status : Answered
Chosen Option : A

Q.72 How many parameters are taken into consideration while measuring air quality in India?

- Ans ☒ A. 6
- ☒ B. 10
- ☒ C. 5
- ☒ D. 8

Question ID : 8401603817
Status : Answered
Chosen Option : D

Q.73 Which of the following steel connections is classified under friction type?

- Ans ☒ A. Slip type connection
- ☒ B. Slip critical connections
- ☒ C. Hanger connection
- ☒ D. Connection of bracings

Question ID : 8401603788
Status : Answered
Chosen Option : B

Q.74 When was the first median remote sensing Bhaskara-1 launched?

- Ans ☒ A. June 1979
- ☒ B. July 1980
- ☒ C. October 1977
- ☒ D. September 1981

Question ID : 8401603830
Status : Not Answered
Chosen Option : --

Q.75 Devices installed on water distribution pipes to measure the quantity of water flowing in a particular area are:

- Ans ☒ A. water meters
- ☒ B. momentum meters
- ☒ C. flow meters
- ☒ D. socket meters

Question ID : 8401603726
Status : Answered
Chosen Option : A

Q.76 In controlled flooding irrigation, free flooding is done by which of the following methods?

- Ans ☒ A. Drip irrigation
- ☒ B. Zig-zag method
- ☒ C. Border strip method
- ☒ D. By individual ring

Question ID : 8401603713
Status : Answered
Chosen Option : C

Q.77 1mb pressure is equal to:

- Ans ☒ A. 0.1/m²
- ☒ B. 10N/m²
- ☒ C. 100N/m²
- ☒ D. 1N/m²

Question ID : 8401603779
Status : Answered
Chosen Option : C

Q.78 Consider the function $f(x)=x^2-x-2$. The maximum value of $f(x)$ in the closed interval $[-4,4]$ is:

- Ans
- ☒ A. -2.25
 - ☒ B. indeterminate
 - ☒ C. 18
 - ☒ D. 10

Question ID : 8401603750
Status : Answered
Chosen Option : C

Q.79 Vector images are constructed through:

- a. pixels
- b. lines
- c. fills

- Ans
- ☒ A. Both a and b
 - ☒ B. Both b and c
 - ☒ C. Only a
 - ☒ D. Only c

Question ID : 8401603742
Status : Not Answered
Chosen Option : --

Q.80 Which of the following statements is/are correct to setups the theodolite at intermediate points on the curve?

Statements:

- 1) When the point of curve is invisible from intermediate point.
- 2) When the point of curve is not visible from the intermediate.

- Ans
- ☒ A. Statement 1 is incorrect but statement 2 is correct.
 - ☒ B. Statement 1 and 2 are correct.
 - ☒ C. Statement 1 is correct but statement 2 is incorrect.
 - ☒ D. Statement 1 and 2 are incorrect.

Question ID : 8401603827
Status : Answered
Chosen Option : D

Q.81 The total amount of moisture that can be retained in municipal solid waste sample subjected to gravitational pull is called:

- Ans
- ☒ A. calorific value
 - ☒ B. moisture capacity
 - ☒ C. heating capacity
 - ☒ D. field capacity

Question ID : 8401603732
Status : Answered
Chosen Option : D

Q.82 During activated sludge process of wastewater, the concentration of suspended solids in an aeration tank is called as:

- Ans
- ☐ A. mixed suspended solids
 - ☐ B. sludge volume index
 - ☒ C. mixed liquor suspended solids
 - ☐ D. activated suspended solids

Question ID : 8401603808
Status : Answered
Chosen Option : C

Q.83 A cast iron column has external diameter of 300 mm and is 30 mm thick. Find the compressive load if the safe stress is equal to 500 N/mm² and factor of safety is 5.

- Ans
- ☐ A. 2.54 KN
 - ☐ B. 254.5 KN
 - ☒ C. 2545 KN
 - ☐ D. 25.4 KN

Question ID : 8401603719
Status : Answered
Chosen Option : C

Q.84 As per CPCB, effluent discharge standard for lead into public sewers should NOT exceed:

- Ans
- ☐ A. 0.1 mg/L
 - ☒ B. 1.0 mg/L
 - ☐ C. 0.5 mg/L
 - ☐ D. 0.001 mg/L

Question ID : 8401603809
Status : Answered
Chosen Option : A

Q.85 The rate at which bacteria multiply is proportional to the instantaneous number present. If the original number doubles in 2 hours, then in how many hours will it triple?

- Ans
- ☐ A. $2\log 2$
 - ☐ B. $3\log 3$
 - ☒ C. $\frac{2\log 3}{\log 2}$
 - ☐ D. $2\log 3$

Question ID : 8401603842
Status : Answered
Chosen Option : C

Q.86 Match the following regions with the wave lengths.

Region	Wavelength
1) Radar	a) 0.3 to 0.4 μ m
2) Infrared	b) 3 to 5 μ m
3) Thermal-IR	c) 0.1 to 30 cm
4) Ultra violet	d) 0.7 to 1.00 μ m

- Ans
- ☒ A. 1-c, 2-a, 3-d, 4-b
 - ☒ B. 1-b, 2-c, 3-d, 4-a
 - ☒ C. 1-c, 2-d, 3-b, 4-a
 - ☒ D. 1-b, 2-c, 3-a, 4-d

Question ID : 8401603829
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.87 A water distribution system in which the whole system is enclosed by a main pipeline in a radial or rectangular shape is called:

- Ans
- ☒ A. closed distribution system
 - ☒ B. dead end distribution system
 - ☒ C. ring distribution system
 - ☒ D. radiant distribution system

Question ID : 8401603725
Status : Answered
Chosen Option : C

Q.88 The point on which force of buoyancy is about to act is called:

- Ans
- ☒ A. meta centre
 - ☒ B. meta centric height
 - ☒ C. centre of buoyancy
 - ☒ D. buoyancy

Question ID : 8401603701
Status : Answered
Chosen Option : C

Q.89 Which of the following factors is NOT considered to determine dry weather flow?

- Ans
- ☒ A. Intensity of rainfall
 - ☒ B. Infiltration and exfiltration
 - ☒ C. Population
 - ☒ D. Rate of water supply

Question ID : 8401603806
Status : Answered
Chosen Option : B

Q.90 The colour of water is represented in _____ units.

- Ans ☒ A. Mendeley
☒ B. Bentley
☒ C. Hazen
☒ D. Williams

Question ID : 8401603721
Status : Answered
Chosen Option : C

Q.91 Which is the particulate matter control device that uses electrical forces to move particles entrained within an exhaust stream onto collection surfaces?

- Ans ☒ A. Electrostatic vendors
☒ B. Electrostatic rotators
☒ C. Electrostatic cyclones
☒ D. Electrostatic precipitators

Question ID : 8401603731
Status : Answered
Chosen Option : D

Q.92 The elevation of two points A and B on an aerial photograph are 500 ft and 565 ft, respectively. The scales at these points on the photograph are 1:10000 and 1: 9870, respectively. Determine the elevation at point C if the scale at the C is 1: 8000.

- Ans ☒ A. 1500 ft
☒ B. 1200 ft
☒ C. 3000 ft
☒ D. 800 ft

Question ID : 8401603770
Status : Answered
Chosen Option : A

Q.93 What do you mean by primitive of a differential equation?

- Ans ☒ A. Relation between dependent and independent variables.
☒ B. Relation between the derivative and the independent variable.
☒ C. Relation between variables and the derivatives.
☒ D. Relation between terms of dx and terms of dy.

Question ID : 8401603843
Status : Answered
Chosen Option : A

Q.94 The coefficient of friction is _____ for smooth surfaces.

- Ans ☒ A. 1.5
- ☒ B. zero
- ☒ C. 1.0
- ☒ D. infinity

Question ID : 8401603800
Status : Answered
Chosen Option : B

Q.95 How many different plain scales in metric units are recommended by IS 1491-1959 for the use of surveying?

- Ans ☒ A. Two
- ☒ B. Six
- ☒ C. Five
- ☒ D. Four

Question ID : 8401603735
Status : Answered
Chosen Option : D

Q.96 Which of the following is NOT a method of observing the bearing of lines by fast needle method?

- Ans ☒ A. By true meridian
- ☒ B. Back bearing method
- ☒ C. Direct method without transiting
- ☒ D. Direct method with transiting

Question ID : 8401603738
Status : Answered
Chosen Option : A

Q.97 For a high yield strength deformed bars of grade Fe500 the permissible stress in flexural tension is:

- Ans ☒ A. 0.85fy
- ☒ B. 0.55fy
- ☒ C. 0.80fy
- ☒ D. 0.87fy

Question ID : 8401603785
Status : Answered
Chosen Option : D

Q.98 As per revised code IS456, the recommended mix for general reinforced concrete work is:

- Ans ☒ A. 1:2.5: 6
☒ B. 1:1:2
☒ C. 1:1.5:3
☒ D. 1:2:4

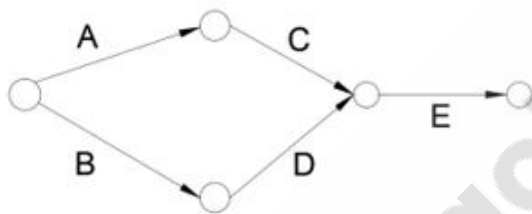
Question ID : 8401603793
Status : Answered
Chosen Option : C

Q.99 The bottom of the trench in landfills is lined with an impervious layer to prevent _____ from contaminating ground water.

- Ans ☒ A. adsorbate
☒ B. leachate
☒ C. refuse
☒ D. filtrate

Question ID : 8401603822
Status : Answered
Chosen Option : B

Q.100 Study the given diagram and select the correct statement.



- Ans ☒ A. Activity B is started only after completion of activity A.
☒ B. Activity E can start independently.
☒ C. Activity A is started only after completion of activity B.
☒ D. Activity A and B start concurrently.

Question ID : 8401603792
Status : Answered
Chosen Option : D

Q.101 Which of the following is NOT an aerobic treatment technique for wastewater?

- Ans ☒ A. Trickling filters
☒ B. Oxidation pond
☒ C. Septic tank
☒ D. Activated sludge process

Question ID : 8401603807
Status : Answered
Chosen Option : C

Q.102 Water quality is classified as bad if water quality index score is between:

- Ans ☒ A. 41-60
☒ B. 81-100
☒ C. 0-20
☒ D. 61-80

Question ID : 8401603723
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.103 Determine the viscosity of a liquid having kinematic viscosity 8stokes and specific gravity 1.9.

- Ans ☒ A. 1.52 Ns/m²
☒ B. 11.40 poise
☒ C. 1.52 poise
☒ D. 15.2 Ns/m²

Question ID : 8401603700
Status : Answered
Chosen Option : A

Q.104 The pipe having a diameter of 300 mm is suddenly enlarged to a diameter of 450 mm. The rate of flow of water through pipe is 200l/sec. Find the loss of head due to sudden enlargement.

- Ans ☒ A. 1.816 m
☒ B. 1.99 m
☒ C. 0.13 m
☒ D. 0.4 m

Question ID : 8401603704
Status : Answered
Chosen Option : C

Q.105 The water distribution system in which many sub-main pipelines are connected to a single main pipeline that runs along the centre of the building is called:

- Ans ☒ A. circular distribution system
☒ B. dead end distribution system
☒ C. ring distribution system
☒ D. grid distribution system

Question ID : 8401603804
Status : Answered
Chosen Option : D

Q.106 As per IS 800:2007, the bearing strength of concrete shall NOT exceed _____ = characteristic compressive strength of concrete .

- Ans
- ☒ A. $0.5f_{ck}$
 - ☒ B. $0.55f_{ck}$
 - ☒ C. $0.44f_{ck}$
 - ☒ D. $0.60f_{ck}$

Question ID : 8401603789
Status : Answered
Chosen Option : D

Q.107 Which of the following is different from the rest?

- Ans
- ☒ A. Rain
 - ☒ B. Drizzle
 - ☒ C. Hail
 - ☒ D. Fog

Question ID : 8401603778
Status : Answered
Chosen Option : D

Q.108 At a particular place the meteorological duration shows atmospheric pressure as 35.8 inches of mercury. Express the same in N/mm^2 .

- Ans
- ☒ A. $0.1209 N/mm^2$
 - ☒ B. $909.32 N/mm^2$
 - ☒ C. $1209.3 N/mm^2$
 - ☒ D. $120939.56 N/mm^2$

Question ID : 8401603707
Status : Answered
Chosen Option : A

Q.109 The flow in which depth of flow changes abruptly over a small length of the channel is known as:

- Ans
- ☒ A. gradually varying flow
 - ☒ B. rapid varied flow
 - ☒ C. turbulent flow
 - ☒ D. lamina flow

Question ID : 8401603776
Status : Answered
Chosen Option : B

Q.110 Which of the following is NOT a method used for setting out the curve?

- Ans ☒ A. Tacheometric method
☒ B. Two theodolite method
☒ C. Three theodolite method
☒ D. Rankine's method

Question ID : 8401603835
Status : Answered
Chosen Option : C

Q.111 The general solution of the differential equation $(hx + by + f)dy + (ax + hy + g)dx = 0$ represents a family of:

- Ans ☒ A. parabola having vertex at origin and foci on y-axis
☒ B. pair of straight lines
☒ C. Circle centered at $(-g, -f)$ and fixed radius
☒ D. pair of straight lines passing through origin

Question ID : 8401603840
Status : Answered
Chosen Option : C

Q.112 In permanent adjustment of levels, two peg test is done to correct:

- Ans ☒ A. level tube
☒ B. cross hair ring
☒ C. line of collimation
☒ D. cross hair ring and line of collimation

Question ID : 8401603740
Status : Answered
Chosen Option : D

Q.113 Read the given statements and select the most appropriate option.

Statements:
[a] The activity with minimum cost slope has to be crashed first.
[b] The activity with maximum cost slope has to be crashed first.

- Ans ☒ A. Statement [a] is true but statement [b] is false
☒ B. Statement [a] is false but statement [b] is true
☒ C. Statement [a] and statement [b] are false
☒ D. Statement [a] and statement [b] are true

Question ID : 8401603717
Status : Answered
Chosen Option : A

Q.114 Which statement(s) is/are true?

Statements:

- a. It is complex and time consuming to transform a vector file to a raster photograph.
- b. We can easily convert a raster image into a vector image.

- Ans
- ☒ A. Statement a is true but b is false
 - ☒ B. Both statements a and b are false
 - ☒ C. Both statements a and b are true
 - ☒ D. Statement b is true but a is false

Question ID : 8401603837
Status : Answered
Chosen Option : D

Q.115 A camera having focal length of 30 cm is used to take vertical photography of a terrain having an average elevation of 1200 m. What is the height above the sea level at which the aircraft must fly in order to get the scale of 1:7000?

- Ans
- ☒ A. 3300 m
 - ☒ B. 3500 m
 - ☒ C. 2250 m
 - ☒ D. 3600 m

Question ID : 8401603831
Status : Answered
Chosen Option : A

Q.116 In steel section, the shape factor 'S' of a channel section is:

- Ans
- ☒ A. 2.5
 - ☒ B. 2
 - ☒ C. 1.17
 - ☒ D. 1.13

Question ID : 8401603791
Status : Answered
Chosen Option : D

Q.117 What is the recommended value of contraction joint spacing (in m) for reinforced slabs if the thickness is 15cm?

- Ans
- ☒ A. 14
 - ☒ B. 13
 - ☒ C. 7.5
 - ☒ D. 4.5

Question ID : 8401603760
Status : Answered
Chosen Option : C

Q.118 A compaction curve is plotted between:

- Ans ☒ A. water content and dry densities
- ☐ B. void ratios and dry density
- ☐ C. water content and saturated density
- ☐ D. void ratio and saturated density

Question ID : 8401603756
Status : Answered
Chosen Option : A

Q.119 A prestressed concrete beam of 400 mm × 650 mm has span of 5m and is subjected to udl of 16KN/m including self-weight of the beam. The prestressing force is 900 KN. Determine the extreme fibre stresses in concrete at mid span section.

- Ans ☒ A. 5.23 N/mm² and 1.69 N/mm²
- ☐ B. 5.23 N/mm² and -1.69 N/mm²
- ☐ C. -5.23 N/mm² and -1.69 N/mm²
- ☐ D. -5.23 N/mm² and 1.69 N/mm²

Question ID : 8401603786
Status : Answered
Chosen Option : A

Q.120 The portion between any two successive flow lines is known as:

- Ans ☒ A. flow channel
- ☐ B. flow net
- ☐ C. slope
- ☐ D. flow lines

Question ID : 8401603847
Status : Answered
Chosen Option : A

Q.121 The minimum distance open to the vision of the driver of a vehicle intending to overtake a slow vehicle ahead with safety against the traffic in the opposite direction is called:

- Ans ☐ A. stopping sight distance
- ☒ B. safe passing sight distance
- ☐ C. braking distance
- ☐ D. lag distance

Question ID : 8401603757
Status : Answered
Chosen Option : B

Q.122 The graph drawn between rainfall intensity and time is a:

- Ans
- ☒ A. mass curve
 - ☒ B. hydrograph
 - ☒ C. unit hydrograph
 - ☒ D. hyetograph

Question ID : 8401603709
Status : Answered
Chosen Option : D

Q.123 The effective slenderness is considered to be greater than actual maximum slenderness ratio to account for:

- Ans
- ☒ A. compression effects
 - ☒ B. buckling effects
 - ☒ C. tension effects
 - ☒ D. shear deformation effects

Question ID : 8401603790
Status : Answered
Chosen Option : D

Q.124 Two triangulation stations A and B are 50 km apart and have elevation 220 m and 270 m, respectively. Find the minimum height of signal required at B so that the line of sight may pass 4 m above the ground. The intervening ground maybe assumed to have uniform elevation of 200 m.

- Ans
- ☒ A. 13.89 m
 - ☒ B. 15.90 m
 - ☒ C. 14.54 m
 - ☒ D. 16.50 m

Question ID : 8401603826
Status : Not Answered
Chosen Option : --

Q.125 The density of rain gauge in hilly regions has recommendations by ISI[IS:4987-1968] is:

- Ans
- ☒ A. one gauge per 130 km²
 - ☒ B. two gauge per 250 to 500 km²
 - ☒ C. one gauge per 500 km²
 - ☒ D. one gauge per 260 to 390 km²

Question ID : 8401603710
Status : Answered
Chosen Option : A

Q.126 Which statement(s) is/are true if a tilted photograph is taken over an area having no relief?

Statements:

- 1) Scale will not be uniform.
- 2) Scale will be uniform.

- Ans
- ☒ A. Neither 1 nor 2 is correct.
 - ☒ B. Statement 1 is correct but 2 is incorrect.
 - ☒ C. Statements 1 and 2 are correct.
 - ☒ D. Statement 1 is incorrect but 2 is correct.

Question ID : 8401603833
Status : Answered
Chosen Option : D

Q.127 As per IS 456:2000, for any columns unrestrained at one end its unsupported length 'l' shall NOT exceed:

- Ans
- ☒ A. $\frac{D^2}{100b}$
 - ☒ B. $\frac{100b}{D^2}$
 - ☒ C. $\frac{D^2}{100b}$
 - ☒ D. $\frac{100b^2}{D}$

Question ID : 8401603787
Status : Answered
Chosen Option : D

Q.128 _____ is a silent killer because it is colourless, odourless, tasteless, and non-irritating.

- Ans
- ☒ A. Carbon dioxide
 - ☒ B. Nitrogen dioxide
 - ☒ C. Sulphur dioxide
 - ☒ D. Carbon monoxide

Question ID : 8401603815
Status : Answered
Chosen Option : D

Q.129 The total observed run of volume during a four hour storm with a uniform intensity of 1.8 cm/h is $23.6 \times 10^6 \text{ m}^3$. If the area of the basin is 400 km^2 , then find the average infiltration rate for basin.

- Ans
- ☒ A. 0.4 cm/h
 - ☒ B. 0.1 cm/h
 - ☒ C. 0.312 cm/h
 - ☒ D. 0.325 cm/h

Question ID : 8401603714
Status : Answered
Chosen Option : D

Q.130 There are ____ types of sedimentation tanks, based on the method of operation.

- Ans
- ☒ A. three
 - ☒ B. four
 - ☒ C. six
 - ☒ D. two

Question ID : 8401603803
Status : Answered
Chosen Option : D

Q.131 While deriving the equation for Gradually Varying Flow, the bed slope of the channel is assumed to be ____.

- Ans
- ☒ A. large
 - ☒ B. small
 - ☒ C. constant slope
 - ☒ D. medium

Question ID : 8401603777
Status : Answered
Chosen Option : B

Q.132 In India, 'reuse of treated wastewater policy' to reduce dependency on fresh water was first launched in:

- Ans
- ☒ A. Haryana
 - ☒ B. Gujarat
 - ☒ C. Tamil Nadu
 - ☒ D. Maharashtra

Question ID : 8401603811
Status : Answered
Chosen Option : B

Q.133 Given the two points [a,f(a)], [b,f(b)], the linear Lagrange polynomial f(x) that passes through these two points is given by:

- Ans
- ☒ A. $f(x) = \frac{(x-b)}{(a-b)} f(a) - \frac{(x-a)}{(b-a)} f(b)$
 - ☒ B. $f(x) = \frac{(x-b)}{(a-b)} f(a) + \frac{(x-a)}{(a-b)} f(b)$
 - ☒ C. $f(x) = f(a) + \frac{f(b)-f(a)}{(b-a)} f(b)$
 - ☒ D. $f(x) = \frac{(x-b)}{(a-b)} f(a) + \frac{(x-a)}{(b-a)} f(b)$

Question ID : 8401603743
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.134

Rank of the matrix $\begin{pmatrix} 3 & 2 & -9 \\ -6 & -4 & 18 \\ 12 & 8 & -36 \end{pmatrix}$ is:

- Ans
- ☒ A. $\sqrt{3}$
 - ☒ B. 2
 - ☒ C. 3
 - ☒ D. 1

Question ID : 8401603746

Status : Answered

Chosen Option : D

Q.135

One-third of the value of the integral $\int_0^{\pi} \sin \theta \, d\theta$ is given by:

- Ans
- ☒ A. $\frac{8}{3}$
 - ☒ B. $\frac{4}{3}$
 - ☒ C. $\frac{2}{3}$
 - ☒ D. $\frac{1}{2}$

Question ID : 8401603748

Status : Answered

Chosen Option : C

Q.136 A vehicle weighing 125 kN is slowly pulled up a smooth 30° plane by a 20 mm diameter cable. Find the tensile stress in the cable.

- Ans
- ☒ A. 200 N/mm²
 - ☒ B. 225 N/mm²
 - ☒ C. 250 N/mm²
 - ☒ D. 175 N/mm²

Question ID : 8401603794

Status : Answered

Chosen Option : A

Q.137 Shear strain of a fluid directly proportional to the rate of shear strain is:

- Ans ☒ A. Newton's law of gravity
- ☒ B. Brownian's law
- ☒ C. Newton's law of viscosity
- ☒ D. Bernoulli's equation

Question ID : 8401603773
Status : Answered
Chosen Option : C

Q.138 The surface joining static water level in rural wells penetrating a confined aquifer represents:

- Ans ☒ A. capillary fringe
- ☒ B. piezometric surface of aquifer
- ☒ C. cone of depression
- ☒ D. water table surface

Question ID : 8401603712
Status : Answered
Chosen Option : B

Q.139 When the whole circle bearing of a traverse line is between 0° to 90°, then:

- Ans ☒ A. the latitude is negative and departure is positive
- ☒ B. the latitude and departure both are positive
- ☒ C. the latitude and departure both are negative
- ☒ D. the latitude is positive and departure is negative

Question ID : 8401603739
Status : Answered
Chosen Option : B

Q.140 The three sides of the trapezoidal channel of most economical sections are _____ to the semicircle described on the water line.

- Ans ☒ A. perpendicular
- ☒ B. parallel
- ☒ C. opposite
- ☒ D. tangential

Question ID : 8401603706
Status : Answered
Chosen Option : D

Q.141 _____ is NOT a method adopted in converting waste to energy technologies.

Ans

✖

A. Incineration

✔

B. Adsorption

✖

C. Pyrolysis

✖

D. Gasification

Question ID : 8401603820

Status : Answered

Chosen Option : B

Q.142 Polar form of Cauchy-Riemann equations are:

Ans

✖

A. $\frac{\partial u}{\partial \theta} = \frac{1}{r} \frac{\partial v}{\partial \theta}, \frac{\partial v}{\partial r} = -\frac{1}{r} \frac{\partial u}{\partial r}$

✖

B. $\frac{\partial u}{\partial r} = \frac{1}{r} \frac{\partial v}{\partial \theta}, \frac{\partial v}{\partial r} = \frac{1}{r} \frac{\partial u}{\partial \theta}$

✔

C. $\frac{\partial u}{\partial r} = \frac{1}{r} \frac{\partial v}{\partial \theta}, \frac{\partial v}{\partial r} = -\frac{1}{r} \frac{\partial u}{\partial \theta}$

✖

D. $\frac{\partial u}{\partial r} = \frac{1}{r} \frac{\partial v}{\partial r}, \frac{\partial v}{\partial \theta} = -\frac{1}{r} \frac{\partial u}{\partial \theta}$

Question ID : 8401603753

Status : Answered

Chosen Option : C

Q.143 What is the carriageway width of two lanes without raised kerbs?

Ans

✖

A. 5.5 m

✖

B. 3.75 m

✔

C. 7 m

✖

D. 7.5 m

Question ID : 8401603848

Status : Answered

Chosen Option : C

Q.144 Larger particulates that are included in _____ consist mostly of carbon containing material produced from combustion.

Ans

✖

A. PM_{12.5}

✖

B. PM_{2.5}

✖

C. PM₅

✔

D. PM₁₀

Question ID : 8401603730

Status : Answered

Chosen Option : D

Q.145 The deflection of the cantilever beam subjected to udl is:

- Ans
- ☒ A. $WL^3/8EI$
 - ☒ B. $WL^4/8EI$
 - ☒ C. $WL^4/48EI$
 - ☒ D. $WL^3/48EI$

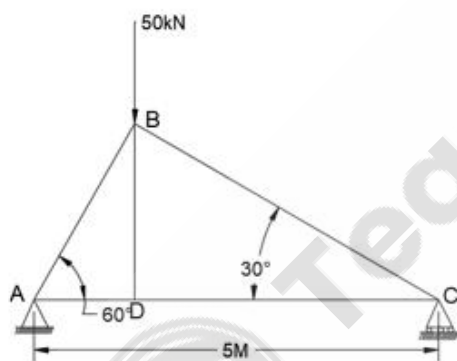
Question ID : 8401603799
Status : Answered
Chosen Option : B

Q.146 The type of soil which is deposited primarily through the action of gravitational force is termed as _____.

- Ans
- ☒ A. lacustrine soil
 - ☒ B. aeolian soil
 - ☒ C. colluvial soil
 - ☒ D. alluvial soil

Question ID : 8401603762
Status : Answered
Chosen Option : C

Q.147 Find the force in member AB of the truss in the given figure.



- Ans
- ☒ A. 21.6KN [tensile]
 - ☒ B. 43.03KN [compressive]
 - ☒ C. 21.6KN [compressive]
 - ☒ D. 43.03KN [tensile]

Question ID : 8401603798
Status : Answered
Chosen Option : B

Q.148 In canal lining, which of the following is a hard surface lining?

- Ans
- ☒ A. Soil cement lining
 - ☒ B. Compacted earth lining
 - ☒ C. Mud lining
 - ☒ D. Shotcrete lining or plastic lining

Question ID : 8401603781
Status : Answered
Chosen Option : D

Q.149 As per IS 10500:2012, the permissible limit for free residual chlorine in drinking water should NOT exceed:

- Ans
- ☒ A. 1.2 mg/L
 - ☒ B. 1 mg/L
 - ☒ C. 0.6 mg/L
 - ☒ D. 1.5 mg/L

Question ID : 8401603722
Status : Answered
Chosen Option : B

Q.150 Mass density of fluid is defined as:

- Ans
- ☒ A. $\frac{\text{Volume of gas}}{\text{Mass of gas}}$
 - ☒ B. $\frac{\text{Volume of fluid}}{\text{Mass of fluid}}$
 - ☒ C. $\frac{\text{Mass of fluid}}{\text{Weight of fluid}}$
 - ☒ D. $\frac{\text{Mass of fluid}}{\text{Volume of fluid}}$

Question ID : 8401603699
Status : Answered
Chosen Option : D

Section : General Knowledge and Awareness

Q.1 In Vedic terminology, Krishna and Shukla are types of:

- Ans
- ☒ A. Sama Veda
 - ☒ B. Atharva Veda
 - ☒ C. Rig Veda
 - ☒ D. Yajur Veda

Question ID : 8401603849
Status : Answered
Chosen Option : D

Q.2 Which country neighboring India, has Dari and Pashto as its official languages?

- Ans ☒ A. Afghanistan
- ☒ B. Myanmar
- ☒ C. Nepal
- ☒ D. Bhutan

Question ID : 8401603853
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.3 Who among the following was selected as India's new Sherpa for the G20, in July 2022?

- Ans ☒ A. Raghuram Rajan
- ☒ B. Amitabh Kant
- ☒ C. Piyush Goyal
- ☒ D. Duvvuri Subba Rao

Question ID : 8401603866
Status : Answered
Chosen Option : C

Q.4 _____ is a tax imposed on imports, over and above the basic import duty.

- Ans ☒ A. Value Added Tax
- ☒ B. Export duty
- ☒ C. Cess
- ☒ D. Countervailing duty

Question ID : 8401603858
Status : Answered
Chosen Option : A

Q.5 In which year was the Battle of Khanwa fought, during which Babur annexed Mewar?

- Ans ☒ A. 1537 AD
- ☒ B. 1533 AD
- ☒ C. 1527 AD
- ☒ D. 1530 AD

Question ID : 8401603851
Status : Answered
Chosen Option : C

Q.6 In which year was India Infrastructure Finance Company Ltd (IIFCL) set up in India?

- Ans ☒ A. 2003
- ☒ B. 2006
- ☒ C. 2012
- ☒ D. 2009

Question ID : 8401603859
Status : Not Answered
Chosen Option : --

Q.7 The taxation of perquisites provided by an employer to his employees, in addition to the cash salary or wages paid, is known as _____.

- Ans
- ☒ A. Corporation Tax
 - ☒ B. Fringe Benefit Tax (FBT)
 - ☒ C. Securities Transaction Tax (STT)
 - ☒ D. Banking Cash Transaction Tax (BCTT)

Question ID : 8401603857
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.8 Which ruler of the Gupta dynasty is known to build the famous Nalanda University?

- Ans
- ☒ A. Vishnu Gupta
 - ☒ B. Chandra Gupta I
 - ☒ C. Kumar Gupta I
 - ☒ D. Samudra Gupta

Question ID : 8401603850
Status : Answered
Chosen Option : C

Q.9 Where is the headquarters of the National Sugar Research Institute located in India?

- Ans
- ☒ A. Pune
 - ☒ B. Jaipur
 - ☒ C. Bangalore
 - ☒ D. Kanpur

Question ID : 8401603856
Status : Answered
Chosen Option : D

Q.10 During which period were the Five-Year Plans suspended, and annual plans were designed in this period in India?

- Ans
- ☒ A. 1976-1979
 - ☒ B. 1966-1969
 - ☒ C. 1985-1988
 - ☒ D. 1956-1959

Question ID : 8401603868
Status : Answered
Chosen Option : A

Q.11 On 4 July 2022, the Union Minister of State for Science and Technology, Jitendra Singh, inaugurated India's first Autonomous Navigation facility called _____.

- Ans ☒ A. TiHAN
- ☐ B. TiPAN
- ☐ C. TiBAN
- ☐ D. TiCAN

Question ID : 8401603867
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.12 Which of the following countries shares the shortest international border with India?

- Ans ☐ A. Nepal
- ☐ B. Myanmar
- ☒ C. Bhutan
- ☐ D. Pakistan

Question ID : 8401603854
Status : Answered
Chosen Option : C

Q.13 By which Indian Constitutional Amendment Act was the provision of having a common High Court for two or more states introduced?

- Ans ☐ A. Second Amendment Act, 1952
- ☐ B. First Amendment Act, 1951
- ☒ C. Seventh Amendment Act, 1956
- ☐ D. Twelfth Amendment Act, 1962

Question ID : 8401603861
Status : Not Answered
Chosen Option : --

Q.14 Who among the following holds the portfolio of Defence in the Union Cabinet of India (as of July 2022)?

- Ans ☒ A. Rajnath Singh
- ☐ B. Nitin Jairam Gadkari
- ☐ C. Amit Shah
- ☐ D. Arjun Munda

Question ID : 8401603864
Status : Answered
Chosen Option : A

Q.15 As of July 2022, who is the Governor of the Reserve Bank of India?

- Ans ☒ A. Dr. Raghuram Rajan
- ☒ B. Shaktikanta Das
- ☒ C. Dr. Urjit R Patel
- ☒ D. Dr. D Subbarao

Question ID : 8401603865
Status : Answered
Chosen Option : D

Q.16 As of September 2022 ,which of the following languages is NOT included under the Eighth Schedule of the Indian Constitution?

- Ans ☒ A. Assamese
- ☒ B. Santhali
- ☒ C. Tulu
- ☒ D. Konkani

Question ID : 8401603863
Status : Answered
Chosen Option : A

Q.17 The airport in which city is named after Swami Vivekananda?

- Ans ☒ A. Goa
- ☒ B. Indore
- ☒ C. Raipur
- ☒ D. Hyderabad

Question ID : 8401603855
Status : Answered
Chosen Option : D

Q.18 Who among the following designed the Indian National Flag?

- Ans ☒ A. Rani Gaidinliu
- ☒ B. Pingali Venkayya
- ☒ C. Chetram Jatav
- ☒ D. Rajendra Lahiri

Question ID : 8401603852
Status : Answered
Chosen Option : B

Q.19 The Swaran Singh Committee recommended inclusion of which of the following in the Indian Constitution?

- Ans ☒ A. Fundamental Duties
- ☐ B. Directive Principles of State Policy
- ☐ C. Fundamental Rights
- ☐ D. Concurrent List

Question ID : 8401603862
Status : Answered
Chosen Option : A

Q.20 The President of India is elected by an electoral college. Who among the following is NOT a part of the electoral college?

- Ans ☒ A. Members of State Legislative Council
- ☐ B. Elected members of the Rajya Sabha
- ☐ C. MLAs of States
- ☐ D. Elected members of the Lok Sabha

Question ID : 8401603860
Status : Answered
Chosen Option : A

Section : Reasoning and Aptitude

Q.1 In a certain code language, 'SLANDER' is written as 'ADELNRS'. How will 'EQUATION' be written in that language?

- Ans ☐ A. AEINQOTU
- ☒ B. AEINOQTU
- ☐ C. AEINOQTV
- ☐ D. AEIONQTU

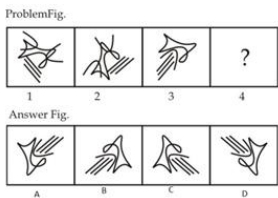
Question ID : 8401603885
Status : Answered
Chosen Option : B

Q.2 Select the option that is related to the third number in the same way as the second number is related to the first number.
315 : 9 :: 584 : ?

- Ans ☐ A. 13
- ☒ B. 17
- ☐ C. 15
- ☐ D. 11

Question ID : 8401603873
Status : Answered
Chosen Option : B

Q.3 Select the option that is related to the third figure in the same way as the second figure is related to the first figure.



- Ans
- ☒ A. C
 - ☐ B. B
 - ☐ C. A
 - ☐ D. D

Question ID : 8401603875
Status : Answered
Chosen Option : A

Q.4 Four numbers have been given, out of which three are alike in some manner and one is different. Select the number that is different.

- Ans
- ☐ A. 61
 - ☒ B. 87
 - ☐ C. 71
 - ☐ D. 67

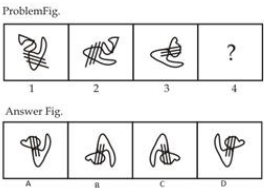
Question ID : 8401603878
Status : Answered
Chosen Option : B

Q.5 Select the number from among the given options that can replace the question mark (?) in the following series.
169, 269, 350, 414, 463, ?

- Ans
- ☒ A. 499
 - ☐ B. 512
 - ☐ C. 506
 - ☐ D. 516

Question ID : 8401603884
Status : Answered
Chosen Option : A

Q.6 Select the option that is related to the third figure in the same way as the second figure is related to the first figure.



- Ans
- ☒ A. B
 - ☒ B. D
 - ☒ C. A
 - ☒ D. C

Question ID : 8401603874
Status : Answered
Chosen Option : D

Q.7 In a certain code language, 'BUOY' is written as 'DWQA'. How will 'LIGHT' be written in that language?

- Ans
- ☒ A. NKIJV
 - ☒ B. NKIJU
 - ☒ C. NIKJV
 - ☒ D. NKJIV

Question ID : 8401603886
Status : Answered
Chosen Option : A

Q.8 Select the option that is related to the third word in the same way as the second word is related to the first word.
Cock : Hen :: Drake : ?

- Ans
- ☒ A. Goose
 - ☒ B. Fox
 - ☒ C. Lord
 - ☒ D. Duck

Question ID : 8401603869
Status : Answered
Chosen Option : D

Q.9 Select the option that is related to the third number in the same way as the second number is related to the first number.
17 : 119 :: 23 : ?

- Ans
- ☒ A. 171
 - ☒ B. 167
 - ☒ C. 161
 - ☒ D. 181

Question ID : 8401603872
Status : Answered
Chosen Option : C

Q.10 In a certain code language, 'PLANET' is coded as '1713215621'. How will 'SWITCH' be coded in that language?

- Ans
- ☒ A. 2024102139
 - ☒ B. 2024102249
 - ☒ C. 2024202149
 - ☒ D. 2024102149

Question ID : 8401603887
Status : Answered
Chosen Option : D

Q.11 Select the number from among the given options that can replace the question mark (?) in the following series.

23, 69, 276, 1380, ?

- Ans
- ☒ A. 8990
 - ☒ B. 8234
 - ☒ C. 8280
 - ☒ D. 8080

Question ID : 8401603883
Status : Answered
Chosen Option : C

Q.12 चार शब्द दिए गए हैं, जिनमें से तीन किसी दृष्टि में एकसमान हैं और एक असंगत है। उस असंगत शब्द का चयन कीजिए।

- Ans
- ☒ A. टमाटर
 - ☒ B. आलू बुखारा
 - ☒ C. आलू
 - ☒ D. नाशपाती

Question ID : 8401603876
Status : Answered
Chosen Option : D

Q.13 Four words have been given, out of which three are alike in some manner and one is different. Select the word that is different.

- Ans
- ☒ A. Fish
 - ☒ B. Bat
 - ☒ C. Cat
 - ☒ D. Dolphin

Question ID : 8401603877
Status : Answered
Chosen Option : A

Q.14 Select the number from among the given options that can replace the question mark (?) in the following series.
6, 12, 24, 48, 96, ?

- Ans ☒ A. 186
☒ B. 192
☒ C. 196
☒ D. 190

Question ID : 8401603882
Status : Answered
Chosen Option : B

Q.15 उस विकल्प का चयन कीजिए जिसका तीसरे शब्द से ठीक वही संबंध है, जो दूसरे शब्द का पहले शब्द से है।

प्रस्ताव : आवश्यकता :: आपूर्ति : ?

- Ans ☒ A. स्वीकृति
☒ B. पूँजी
☒ C. अस्वीकृति
☒ D. माँग

Question ID : 8401603871
Status : Answered
Chosen Option : D

Q.16 Select the option that is related to the third word in the same way as the second word is related to the first word.
Cattle : Herd :: Bees : ?

- Ans ☒ A. Swarm
☒ B. Bunch
☒ C. Mob
☒ D. Fish

Question ID : 8401603870
Status : Answered
Chosen Option : A

Q.17 Select the word that CANNOT be formed using the letters of the given word only as many times as the letters have been used in the word.

ANEMOGRAPHICALLY

- Ans ☒ A. Calligraphy
☒ B. Logically
☒ C. Graphic
☒ D. Alloy

Question ID : 8401603879
Status : Answered
Chosen Option : B

Q.18 In a certain code language, 'DEN' is coded as '280'. How will 'NET' be coded in that language?

- Ans
- ☒ A. 1300
 - ☒ B. 1400
 - ☒ C. 1200
 - ☒ D. 1100

Question ID : 8401603888
Status : Answered
Chosen Option : B

Q.19 In a certain code,
'M # N' means 'M is the mother of N',
'M % N' means 'M is the sister of N',
'M \$ N' means 'M is the brother of N',
'M @ N' means 'M is the father of N'.
If 'A \$ B % C # D @ E', then how is C related to E?

- Ans
- ☒ A. Father
 - ☒ B. Daughter
 - ☒ C. Grandmother
 - ☒ D. Son

Question ID : 8401603881
Status : Answered
Chosen Option : C

Q.20 Pointing towards Manoj, Shyam said, "He is the only son of my daughter's husband". How is Manoj related to Shyam?

- Ans
- ☒ A. Son
 - ☒ B. Brother
 - ☒ C. Mother's father
 - ☒ D. Daughter's son

Question ID : 8401603880
Status : Answered
Chosen Option : D

Section : General Hindi

Q.1 वर्तनी की दृष्टि से दिए गए वाक्य के किस अंश में त्रुटि है?
काराग्रह से एक कैदी भाग निकला।

- Ans
- ☒ A. एक कैदी
 - ☒ B. काराग्रह से
 - ☒ C. भाग
 - ☒ D. निकला।

Question ID : 8401603897
Status : Answered
Chosen Option : B

Q.2 अनुराग का विलोम है:

- Ans
- ☒ A. विरक्ति
 - ☒ B. सहयोग
 - ☒ C. विराग
 - ☒ D. वियोग

Question ID : 8401603894
Status : Answered
Chosen Option : C

Q.3 निम्न में से 'जल' का पर्याय नहीं है:

- Ans
- ☒ A. नीर
 - ☒ B. सलिल
 - ☒ C. अंबु
 - ☒ D. सोम

Question ID : 8401603891
Status : Answered
Chosen Option : D

Q.4 'जी भर आना' मुहावरे का अर्थ है:

- Ans
- ☒ A. मुसीबत में फँसना
 - ☒ B. उल्टी होना
 - ☒ C. बहुत खा लेना
 - ☒ D. दुःखी होना

Question ID : 8401603895
Status : Answered
Chosen Option : C

Q.5 'तृण' का तद्भव शब्द है:

- Ans
- ☒ A. तीखा
 - ☒ B. तिरछा
 - ☒ C. तिगुना
 - ☒ D. तिनका

Question ID : 8401603890
Status : Answered
Chosen Option : D

Q.6 'तुम्हारे मुँह में घी शक्कर' लोकोक्ति का अर्थ है:

- Ans
- ☒ A. तुम्हारी बात सच हो
 - ☒ B. मिठाई खिलाना
 - ☒ C. बहुत खुश होना
 - ☒ D. शुभ कार्य में देर नहीं करना चाहिए।

Question ID : 8401603896
Status : Answered
Chosen Option : A

Q.7 वाक्य विन्यास की दृष्टि से शुद्ध वाक्य का चयन कीजिए:

- Ans ☒ A. इतनी गर्मी होने पर भी भट्टी के पास काम करता है वह।
☒ B. काम करता है वह भट्टी के पास इतनी गर्मी होने पर भी।
☒ C. भट्टी के पास काम करता है वह इतनी गर्मी होने पर भी।
☒ D. इतनी गर्मी होने पर भी वह भट्टी के पास काम करता है।

Question ID : 8401603898

Status : Answered

Chosen Option : D

Q.8 'चिरंतन' का विलोम निम्न में से है:

- Ans ☒ A. जड़
☒ B. लचर
☒ C. नश्वर
☒ D. स्थायी

Question ID : 8401603893

Status : Answered

Chosen Option : C

Q.9 'घड़ा' का तत्सम शब्द है:

- Ans ☒ A. घटिका
☒ B. घाम
☒ C. घोटक
☒ D. घट

Question ID : 8401603889

Status : Answered

Chosen Option : D

Q.10 निम्न में से 'चंदन' का पर्याय है:

- Ans ☒ A. सुगंधित
☒ B. तमाल
☒ C. निविड़
☒ D. विधु

Question ID : 8401603892

Status : Answered

Chosen Option : B