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**Coal India Limited**  
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**ONLINE APPLICATION FOR MANAGEMENT TRAINEES 2016-17**

Roll No:	
Participant Name:	
Test Center Name:	
Test Date:	
Test Time:	

Section : Professional Knowledge

Q.1 With increase in moisture content of coal, its:

- Ans ☒ 1. clinkering tendency during combustion increases
- ☒ 2. calorific value increases
- ☒ 3. None of the other options
- ☒ 4. bulk density decreases

Question ID : 2391302893

Status : Answered

Chosen Option : 1

Q.2 The most important chemical in a self-rescuer is:

- Ans ☒ 1. hopcalite
- ☒ 2. protosorb
- ☒ 3. calicium bromide
- ☒ 4. lithium chloride

Question ID : 2391302860

Status : Answered

Chosen Option : 1

Q.3 Gross and Net calorific value of coal will be the same if:

- Ans ☒ 1. hydrogen content is zero
- ☒ 2. carbon content is very low
- ☒ 3. ash content is zero
- ☒ 4. ash content is very high

Question ID : 2391302892

Status : Answered

Chosen Option : 3

Q.4 For a cylindrical sample of cross section area A, length L, Young's modulus E, and axial load P, the strain energy stored is:

- Ans ☒ 1.  $P^2L^2/AE$
- ☒ 2.  $P^2L/2AE$
- ☒ 3.  $P^2L/AE$
- ☒ 4.  $PL^2/2AE$

Question ID : 2391302838

Status : Answered

Chosen Option : 2

Q.5 World's largest 'robot', a coal dragline featuring automated loading and unloading has the capacity of \_\_\_\_\_.

- Ans ☒ 1. 2000t
- ☒ 2. None of the other options
- ☒ 3. 4000t
- ☒ 4. 3500t

Question ID : 2391302882

Status : Answered

Chosen Option : 4

Q.6 The rock bolts used for reducing the curing time and for increasing safety are:

- Ans
- ☒ 1. Expansion shell bolt
  - ☒ 2. Resin bolts
  - ☒ 3. Grouted bolts
  - ☒ 4. Slot & wedge bolts

Question ID : 2391302887

Status : Answered

Chosen Option : 3

Q.7 The backsight on a vertical staff on a benchmark is 2.535 m and the foresight on point B is 3.135 m. If the RL of the benchmark is 250.70 m, the RL of the point is:

- Ans
- ☒ 1. 247.015 m
  - ☒ 2. 250.100 m
  - ☒ 3. 253.285 m
  - ☒ 4. 253.885 m

Question ID : 2391302854

Status : Answered

Chosen Option : 2

Q.8 Stacker is commonly used to work in association with:

- Ans
- ☒ 1. payloader
  - ☒ 2. bucket wheel excavator
  - ☒ 3. dragline
  - ☒ 4. shovel

Question ID : 2391302827

Status : Answered

Chosen Option : 2

Q.9 Why the fleet angle is limited to  $1.5^\circ$ ?

- Ans
- ☒ 1. To reduce wear and tear of the winding rope
  - ☒ 2. To reduce side travel on the pulley
  - ☒ 3. To allow maximum persons to travel
  - ☒ 4. Allowing the use of lesser diameter winding rope

Question ID : 2391302869

Status : Answered

Chosen Option : 1

Q.10 The approximate length of a conveyor of loop take up portion of a belt conveyor is A% of the total conveyor length. A is given by:

- Ans
- ☒ 1. 2%
  - ☒ 2. 4%
  - ☒ 3. 1%
  - ☒ 4. 0.5%

Question ID : 2391302851

Status : Answered

Chosen Option : 3

Q.11 In the PERT network, the activity duration is assumed to follow:

- Ans
- ☒ 1. binomial distribution
  - ☒ 2. normal distribution
  - ☒ 3. beta distribution
  - ☒ 4. weibull distribution

Question ID : 2391302864

Status : Answered

Chosen Option : 3

Q.12 Dislocation of bed is caused by structure known as \_\_\_\_\_.

- Ans
- ☒ 1. decline fold
  - ☒ 2. fault
  - ☒ 3. None of the other options
  - ☒ 4. anticline fold

Question ID : 2391302878

Status : Answered

Chosen Option : 1

Q.13 Which one of these mining applications can not be performed by Geographical Information Systems?

- Ans
- ☒ 1. Land ownership & mineral claims

Question ID : 2391302885

Status : Answered

Chosen Option : 1

✓ 2. Design of blasting in an underground excavation

✗ 3. Environmental quality monitoring

✗ 4. Site selection for housing & dumps

Q.14 Capacity factor of a wire rope is the ratio between:

Ans ✗ 1. breaking load of the rope and weight of unit load of the rope

✗ 2. None of the other options

✓ 3. breaking load of the rope and total rope suspended in it excluding the weight of the rope

✗ 4. breaking load of the rope and total rope suspended in it including the weight of the rope

Question ID : 2391302912

Status : Answered

Chosen Option : 3

Q.15 Proximate analysis of coal determines:

Ans ✗ 1. moisture, Sulphur, Nitrogen and fixed Carbon

✗ 2. None of the other options

✗ 3. moisture, ash, Sulphur and VM

✓ 4. moisture, ash, fixed carbon and VM

Question ID : 2391302899

Status : Answered

Chosen Option : 4

Q.16 Roof falls are more common, if the face is at:

Ans ✓ 1. Parallel to the main cleat

✗ 2. None of the other options

✗ 3. 60 degree to the main cleat

✗ 4. Right angles to the main cleat

Question ID : 2391302890

Status : Answered

Chosen Option : 1

Q.17 Which constituent is mainly responsible for easy ignition of coal?

Ans ✗ 1. Fixed carbon

✗ 2. Nitrogen

✗ 3. Ash

✓ 4. Volatile matter

Question ID : 2391302897

Status : Answered

Chosen Option : 4

Q.18 Maximum number of faces available for working in a shift in a 5 heading board and pillar development district is:

Ans ✗ 1. 12

✗ 2. 15

✓ 3. 13

✗ 4. 10

Question ID : 2391302818

Status : Answered

Chosen Option : 3

Q.19 Dust suppression by water has one of the following disadvantages:

Ans ✗ 1. causes the belt to slip

✗ 2. workers take rest during this period

✓ 3. increases humidity in the mine

✗ 4. blasting efficiency becomes poor

Question ID : 2391302841

Status : Answered

Chosen Option : 3

Q.20 For more output, a blast should be taken:

Question ID : 2391302820



Ans

- ☒ 1. along the dip
- ☐ 2. along the strike
- ☐ 3. across the dip
- ☐ 4. across the strike

Status : Answered  
Chosen Option : 1

Q.21 In case of an oxygen balance mix of an explosive, the release of energy on detonation is:

Ans

- ☐ 1. Average
- ☒ 2. Maximum
- ☐ 3. Minimum
- ☐ 4. None of the other options

Question ID : 2391302891  
Status : Answered  
Chosen Option : 2

Q.22 Drawbar pull of a locomotive is:

Ans

- ☐ 1. None of the other options
- ☒ 2. less than its tractive effort
- ☐ 3. more than its tractive effort
- ☐ 4. equal to its tractive effort

Question ID : 2391302913  
Status : Answered  
Chosen Option : 3

Q.23 The machine which is extensively used for direct casting operation in an opencast mine is:

Ans

- ☐ 1. Front end loader
- ☒ 2. Walking dragline
- ☐ 3. Dredger
- ☐ 4. BWE

Question ID : 2391302886  
Status : Answered  
Chosen Option : 2

Q.24 Odometer is used for measurement of:

Ans

- ☒ 1. Distance
- ☐ 2. Pressure
- ☐ 3. Temperature
- ☐ 4. Area

Question ID : 2391302880  
Status : Answered  
Chosen Option : 1

Q.25 What is the maximum height or width of advanced heading for dewatering of water-logged workings in coal mines?

Ans

- ☐ 1. 3.0 m
- ☒ 2. 2.4 m
- ☐ 3. 3.6 m
- ☐ 4. 2.0 m

Question ID : 2391302909  
Status : Answered  
Chosen Option : 2

Q.26 Where the shaft exceeds 45 m in depth, the persons working at the bottom of the shaft shall be protected by a covering, which shall be kept lowered within "A" meters of the bottom of the shaft. "A" is given by:

Ans

- ☒ 1. 22.5
- ☐ 2. 32.5
- ☐ 3. 42.5
- ☐ 4. 52.5

Question ID : 2391302825  
Status : Answered  
Chosen Option : 1

Q.27 The recommended scale for plan and sections for a mica mine is:

Ans

- ☒ 1. 1 : 200
- ☐ 2. 1 : 2000
- ☐ 3. 1 : 500

Question ID : 2391302829  
Status : Answered  
Chosen Option : 1

☒ 4. 1 : 1000

**Q.28** In a point load test on 50 mm dia core specimen, rupture was observed at a load of 5000 kg. Point load strength of the specimen was:

- Ans ☒ 1. 300 kg/cm<sup>2</sup>  
☒ 2. 200 kg/cm<sup>2</sup>  
☒ 3. 500 kg/cm<sup>2</sup>  
☒ 4. 400 kg/cm<sup>2</sup>

Question ID : 2391302834

Status : Answered

Chosen Option : 2

**Q.29** Which has the least volatile matter and hence is the most difficult to ignite:

- Ans ☒ 1. sub-bituminous coal  
☒ 2. anthracite  
☒ 3. coke  
☒ 4. bituminous coal

Question ID : 2391302896

Status : Answered

Chosen Option : 2

**Q.30** A closed traverse ABCDE of perimeter 425 m has a total error of +0.35 m in latitude and -0.44 m in departure. The accuracy of traverse is:

- Ans ☒ 1. 1 in 1024  
☒ 2. 1 in 785  
☒ 3. 1 in 556  
☒ 4. 1 in 756

Question ID : 2391302857

Status : Answered

Chosen Option : 4

**Q.31** Given below are the following mining method techniques. Match the appropriate techniques.

P. Thick seam extraction	1) Double unit face
Q. Bord and pillar extraction	2) Jet cutting
R. Longwall face development	3) Inclined slicing
S. Hydraulic mining	4) Half moon

Find the correct match.

- Ans ☒ 1. P-3, Q-4, R-2, S-1  
☒ 2. P-3, Q-2, R-1, S-4  
☒ 3. P-1, Q-4, R-2, S-3  
☒ 4. P-3, Q-4, R-1, S-2

Question ID : 2391302870

Status : Answered

Chosen Option : 4

**Q.32** A coal seam of 1.5 m lying at a depth of 150 m from surface with an inclination of 5° is to be worked under normal conditions. Which should be preferred?

- Ans ☒ 1. slicing with caving  
☒ 2. board and pillar  
☒ 3. horizon mining  
☒ 4. longwall mining

Question ID : 2391302816

Status : Answered

Chosen Option : 2

**Q.33** The ratio of length of explosive column to the hole diameter which will work as a spherical charge is:

- Ans ☒ 1.  $L/D > 4$   
☒ 2.  $L/D < 4$   
☒ 3.  $L/D > 6$   
☒ 4.  $L/D < 6$

Question ID : 2391302819

Status : Answered

Chosen Option : 4

**Q.34** The length of line measured with a 20 m chain was found to be 536 m. It was afterwards found that the chain was 0.05 m too long. What will be the true length of the line?

- Ans ☒ 1. 568.5 m  
☒ 2. 512.3 m  
☒ 3. 587.5 m

Question ID : 2391302830

Status : Answered

Chosen Option : 4

✓ 4. 537.3 m

Q.35 Life of winding rope is not more than \_\_\_\_ years.

- Ans ✓ 1. 3.5  
✗ 2. 4.5  
✗ 3. 3  
✗ 4. 1.5

Question ID : 2391302875

Status : Answered

Chosen Option : 1

Q.36 When one identical fan is installed in paralleled combination to an existing mine fan, then:

- Ans ✓ 1.  
Air quantity is doubled and pressure remains same  
✗ 2.  
Pressure is doubled and air quantity remains same  
✗ 3. Air quantity as well as pressure is doubled  
✗ 4.  
Air quantity is quadrupled and pressure is doubled

Question ID : 2391302907

Status : Answered

Chosen Option : 2

Q.37 In a normal distribution curve, the area between one standard deviation from mean on either side in percent is:

- Ans ✓ 1. 68  
✗ 2. 86  
✗ 3. 50  
✗ 4. 95

Question ID : 2391302866

Status : Answered

Chosen Option : 1

Q.38 The reduced bearing of a line is S 57° 36' W. What will be the whole circle bearing of the line?

- Ans ✗ 1. 212° 24'  
✗ 2. 137° 36'  
✓ 3. 237° 36'  
✗ 4. 327° 36'

Question ID : 2391302832

Status : Answered

Chosen Option : 3

Q.39 Hardness of rock is defined by:

- Ans ✗ 1. RQD  
✓ 2. RMR  
✗ 3. Mohr's scale  
✗ 4. FOS

Question ID : 2391302833

Status : Answered

Chosen Option : 3

Q.40 Why it is mandatory to remove silt from the sump?

- Ans ✗ 1. To maximize the head of water  
✗ 2. To allow pump khalasi to enter  
✓ 3. To maximize the sump capacity  
✗ 4. To maintain regular flow of water in mines

Question ID : 2391302848

Status : Answered

Chosen Option : 3

Q.41 In ventilation network analysis, Kirchoff's first law is used, which states:

- Ans ✓ 1.  
The algebraic sum of quantities following at junction is zero  
✗ 2.  
The resistance of an airway varies with the square of air velocity

Question ID : 2391302876

Status : Answered

Chosen Option : 1



- ☒ 3. The pressure loss in a closed mesh cannot be predicted
- ☒ 4. The pressure loss in closed mesh is zero

**Q.42** Intake air to a longwall panel has CO at 10 ppm and O<sub>2</sub> at 20.5%, whereas the return air has CO at 30 ppm and O<sub>2</sub> at 20.10%. Find out the Graham's ratio (%) for the oxidation process in panel.

- Ans ☒ 1. 0.1
- ☒ 2. 0.4
- ☒ 3. 0.8
- ☒ 4. 0.5

Question ID : 2391302845

Status : Answered

Chosen Option : 4

**Q.43** At the nozzle in hydraulic mining operations, what should be the minimum pressure to be maintained?

- Ans ☒ 1. 21-35 kgf/cm<sup>2</sup>
- ☒ 2. 40-100 kgf/cm<sup>2</sup>
- ☒ 3. 5-10 kgf/cm<sup>2</sup>
- ☒ 4. 10-20 kgf/cm<sup>2</sup>

Question ID : 2391302872

Status : Answered

Chosen Option : 2

**Q.44** The permissible closing error of an underground traverse having 16 stations measured with 10" theodolite is:

- Ans ☒ 1. 123 sec
- ☒ 2. 121 sec
- ☒ 3. 120 sec
- ☒ 4. 128 sec

Question ID : 2391302828

Status : Answered

Chosen Option : 3

**Q.45** Which of the following is added as sensitizers in explosive?

- Ans ☒ 1. Charcoal
- ☒ 2. NH<sub>4</sub>NO<sub>3</sub>
- ☒ 3. NaCl
- ☒ 4. NG

Question ID : 2391302873

Status : Answered

Chosen Option : 4

**Q.46** Three parallel splits of similar cross section and same type of roadway surface are respectively 400 m, 900 m, 1600 m long. The ratio of quantities flowing through them i.e Q<sub>1</sub> : Q<sub>2</sub> : Q<sub>3</sub> can be expressed as:

- Ans ☒ 1. 2 : 3 : 4
- ☒ 2. 4 : 9 : 16
- ☒ 3. 1/4 : 1/9 : 1/16
- ☒ 4. 1/2 : 1/3 : 1/4

Question ID : 2391302842

Status : Answered

Chosen Option : 4

**Q.47** Calorific value of bituminous coal is about:

- Ans ☒ 1. 2000 Kcal/kg
- ☒ 2. 8000 Kcal/kg
- ☒ 3. 4500 Kcal/kg
- ☒ 4. 1500 Kcal/kg

Question ID : 2391302901

Status : Answered

Chosen Option : 3

**Q.48** Over-riding of gallery incidence is most with:

- Ans ☒ 1. Long wall method
- ☒ 2. Blasting gallery method
- ☒ 3. Wide stall method
- ☒ 4. Short wall method

Question ID : 2391302871

Status : Answered

Chosen Option : 2

Q.49 If the swell factor of ore in a shrinkage stope is 1.4, the output from the stope in percent of broken ore is:

- Ans ☒ 1. 29  
☐ 2. 0  
☐ 3. 100  
☐ 4. 40

Question ID : 2391302823

Status : Answered

Chosen Option : 1

Q.50 The preferred shape of an opening in a hydrostatic stress field is:

- Ans ☐ 1. an ovaloid  
☐ 2. an ellipse  
☐ 3. a rectangle  
☒ 4. a circle

Question ID : 2391302888

Status : Answered

Chosen Option : 4

Q.51 In order to get better safety, the optimum gradient of haul road is:

- Ans ☒ 1. 1 in 16  
☐ 2. 1 in 8  
☐ 3. 1 in 5  
☐ 4. 1 in 6

Question ID : 2391302826

Status : Answered

Chosen Option : 1

Q.52 What will be the equivalent RMR value as per Bieniawski (1989) for a rock mass rating of 20 based on Q-system?

- Ans ☐ 1. 55.71  
☒ 2. 70.96  
☐ 3. 45.30  
☐ 4. 46.90

Question ID : 2391302858

Status : Answered

Chosen Option : 2

Q.53 Black damp is defined as:

- Ans ☒ 1.  
Amount of  $\text{CO}_2$  and  $\text{N}_2$  present in excess of the percentage over that which is normally present in atmospheric air.  
☐ 2.  
Amount of  $\text{CO}_2$  and  $\text{CH}_4$  present in excess of the percentage over that which is normally present in atmospheric air.  
☐ 3.  
Total amount of  $\text{CO}_2$  and  $\text{N}_2$  present in mine air.  
☐ 4.  
Total amount of  $\text{CO}_2$  and  $\text{CH}_4$  present in mine air.

Question ID : 2391302906

Status : Answered

Chosen Option : 1

Q.54 60 m wide longwall panel at a depth of 60 m results in a subsidence trough of width 110 m. The angle of draw is:

- Ans ☐ 1.  $19.9^\circ$   
☐ 2.  $18.4^\circ$   
☒ 3.  $22.6^\circ$   
☐ 4.  $39.8^\circ$

Question ID : 2391302839

Status : Answered

Chosen Option : 4

Q.55 The term CMMS stands for?

- Ans ☐ 1. Comprehensive Mine Management Systems  
☒ 2.  
Computerized Maintenance Management Systems  
☐ 3. None of the other options  
☐ 4. Computerized Mine Management Systems

Question ID : 2391302884

Status : Answered

Chosen Option : 4

Q.56



Match the following:

a) Room and pillar	(i) Artificially supported
b) Shrinkage stopping	(ii) Heavily supported
c) Sub level stopping	(iii) Naturally supported
d) Square set stopping	(iv) Unsupported

- Ans
- ☒ 1. a → (ii), b → (i), c → (iv), d → (iii)
- ☒ 2. a → (ii), b → (iii), c → (iv), d → (i)
- ☒ 3. a → (iii), b → (i), c → (iv), d → (ii)
- ☒ 4. a → (iv), b → (ii), c → (iii), d → (i)

Question ID : 2391302877

Status : Answered

Chosen Option : 3

Q.57 Spontaneous combustion of coal on storage, results due to:

- Ans
- ☒ 1. inadequate ventilation
- ☒ 2. All of the other options
- ☒ 3. storage in large heaps with small surface to volume
- ☒ 4. low temperature oxidation

Question ID : 2391302898

Status : Answered

Chosen Option : 3

Q.58 While dealing with misfire shot, the reliving hole is drilled at a distance not less than:

- Ans
- ☒ 1. 40 cm
- ☒ 2. 20 cm
- ☒ 3. 30 cm
- ☒ 4. 10 cm

Question ID : 2391302874

Status : Answered

Chosen Option : 3

Q.59 Function of snub pulley in the belt conveyor system is:

- Ans
- ☒ 1. safety device
- ☒ 2. braking device
- ☒ 3. increasing the angle of wrap
- ☒ 4. cleaning device

Question ID : 2391302861

Status : Answered

Chosen Option : 3

Q.60 Automatic contrivance shall be provided in each shaft with an exceeding depth of:

- Ans
- ☒ 1. 50 m
- ☒ 2. 90 m
- ☒ 3. 70 m
- ☒ 4. 100 m

Question ID : 2391302868

Status : Answered

Chosen Option : 4

Q.61 A measure of dispersion of a sample of data set is:

- Ans
- ☒ 1. median
- ☒ 2. standard deviation
- ☒ 3. mode
- ☒ 4. mean

Question ID : 2391302865

Status : Answered

Chosen Option : 2

Q.62 The three time estimates of PERT network are assumed to follow:

- Ans
- ☒ 1. gamma
- ☒ 2. exponential
- ☒ 3. beta

Question ID : 2391302863

Status : Answered

Chosen Option : 3

☒ 4. normal

Q.63 Jack hammer drills are:

- Ans
- ☒ 1. rotary type drill machine
  - ☒ 2. rotary percussive type drill machine
  - ☒ 3. None of the other options
  - ☒ 4. percussive type drill machine

Question ID : 2391302914

Status : Answered

Chosen Option : 4

Q.64 Capacity to continue pumping operation even if air enters into water pipelines is known as \_\_\_\_\_.

- Ans
- ☒ 1. snore
  - ☒ 2. driver
  - ☒ 3. core
  - ☒ 4. carrier

Question ID : 2391302862

Status : Answered

Chosen Option : 1

Q.65 For a typical hard rock with  $E = 10^5$  MPa, Poission ratio = 0.25, the modulus of rigidity in GPa is:

- Ans
- ☒ 1. 50
  - ☒ 2. 20
  - ☒ 3. 40
  - ☒ 4. 30

Question ID : 2391302836

Status : Answered

Chosen Option : 3

Q.66 Mean air temperature in a D.C. shaft of 400 m depth is  $28^\circ\text{C}$  and in the U.C. shaft is  $38^\circ\text{C}$ . Motive column will be \_\_\_\_\_ m.

- Ans
- ☒ 1. 12.8
  - ☒ 2. 1.28
  - ☒ 3. 128
  - ☒ 4. 0.128

Question ID : 2391302843

Status : Answered

Chosen Option : 1

Q.67 The number of experimental sets of flat jack to determine 3-dimensional state of stress in a rock mass is:

- Ans
- ☒ 1. two
  - ☒ 2. six
  - ☒ 3. one
  - ☒ 4. three

Question ID : 2391302859

Status : Answered

Chosen Option : 1

Q.68 What is the track guage for tubs of  $1.1 \text{ m}^3$ ?

- Ans
- ☒ 1. 0.8 m
  - ☒ 2. 0.6 m
  - ☒ 3. 1 m
  - ☒ 4. 0.4 m

Question ID : 2391302849

Status : Answered

Chosen Option : 2

Q.69 The angle of draw in a trough subsidence helps in determining the:

- Ans
- ☒ 1. plane of fracture
  - ☒ 2. critical width of the opening
  - ☒ 3. extent of surface subsidence
  - ☒ 4. maximum subsidence

Question ID : 2391302840

Status : Answered

Chosen Option : 3

Q.70 Gyro attachment is used to determine:

- Ans
- ☒ 1. Magnetic north
  - ☒ 2. Horizontal angle

Question ID : 2391302903

Status : Answered

Chosen Option : 3

✓ 3. True North

✗ 4. Horizontal distance

Q.71 A mining equipment has a life of 5 years with no salvage value. Assuming that the depreciation of the equipment is calculated by the straight line method, the average annual value of the equipment in percentage of its original value is:

- Ans
- ✗ 1. 60
  - ✗ 2. 50
  - ✗ 3. 40
  - ✓ 4. 20

Question ID : 2391302852

Status : Answered

Chosen Option : 4

Q.72 High ash coals:

- Ans
- ✓ 1. require large time for carbonization
  - ✗ 2. are soft and friable
  - ✗ 3. None of the other options
  - ✗ 4. produce large quantity of coke oven gas

Question ID : 2391302895

Status : Answered

Chosen Option : 2

Q.73 Most modern method of correlation survey in a mine with vertical shaft is:

- Ans
- ✓ 1. By using Gyro, Laser and Nadir Plummet
  - ✗ 2. Weisbach Triangle method
  - ✗ 3. By using Laser and magnetic compass
  - ✗ 4. By suspending single plumb-wire in two shafts

Question ID : 2391302904

Status : Answered

Chosen Option : 1

Q.74 The stoichiometric composition of fire damp is:

- Ans
- ✗ 1. 5.5% CH<sub>4</sub> in air
  - ✓ 2. 9.5% CH<sub>4</sub> in air
  - ✗ 3. 14.5% CH<sub>4</sub> in air
  - ✗ 4. 5 to 14% CH<sub>4</sub> in air

Question ID : 2391302908

Status : Answered

Chosen Option : 2

Q.75 Find the amount of correction in 20 m chain for a line measured along a slope of 15°.

- Ans
- ✗ 1. 0.568 m
  - ✗ 2. 0.678 m
  - ✓ 3. 0.681 m
  - ✗ 4. 0.786 m

Question ID : 2391302856

Status : Answered

Chosen Option : 2

Q.76 In a mine, the kata factor of instrument is observed at 25 and the time taken by alcohol to fall from upper mark to lower mark is 10 sec. The cooling power will be \_\_\_\_\_ Semilli calories.

- Ans
- ✗ 1. 250
  - ✗ 2. 40
  - ✓ 3. 2.5
  - ✗ 4. 0.4

Question ID : 2391302844

Status : Answered

Chosen Option : 1

Q.77 For a delay blasting of 10 circuits a sequential timer is set on 25 ms between circuit initiations. If the nominal firing time of a detonator is 400 ms, the total add on time in ms for 10 circuits will be:

- Ans
- ✗ 1. 400
  - ✗ 2. 650
  - ✓ 3. 625
  - ✗ 4. 500

Question ID : 2391302817

Status : Answered

Chosen Option : 3



What will be the back bearing of line AB along N 36° W?

Question ID : 2391302881

Status : Answered

Chosen Option : 4

- Ans
- ☒ 1. 54°
  - ☒ 2. 130°
  - ☒ 3. 36°
  - ☒ 4. 144°

Q.79 What should be the maximum value of fleet angle in a drum winder?

Question ID : 2391302850

Status : Answered

Chosen Option : 3

- Ans
- ☒ 1. 3.5°
  - ☒ 2. 4.5°
  - ☒ 3. 1.5°
  - ☒ 4. 2.5°

Q.80 If the ratio of critical width of the horizontal workings to the mining depth of a longwall mine is 1.4, the angle of draw in degrees for critical subsidence is:

Question ID : 2391302837

Status : Answered

Chosen Option : 3

- Ans
- ☒ 1. 40
  - ☒ 2. 20
  - ☒ 3. 35
  - ☒ 4. 45

Q.81 The yield load of hydraulic powered support is:

Question ID : 2391302911

Status : Answered

Chosen Option : 2

- Ans
- ☒ 1. equal to its setting load
  - ☒ 2. more than its setting load
  - ☒ 3. None of the other options
  - ☒ 4. less than its setting load

Q.82 In an open pit mine the market price of fresh copper is Rs. 1000 per tonne. The cost of mining as reported is Rs. 250 per tonne. The cost of removal of waste rock is Rs. 80 per tonne of waste. What will be the stripping ratio?

Question ID : 2391302821

Status : Answered

Chosen Option : 2

- Ans
- ☒ 1. 3.68
  - ☒ 2. 9.39
  - ☒ 3. 3.03
  - ☒ 4. 20

Q.83 During Brazilian test a of a cylindrical rock core of 54 mm diameter and 22 mm thickness, failure occurred at diametrical loading of 11.4 kN. The tensile strength of rock in MPa will be:

Question ID : 2391302835

Status : Answered

Chosen Option : 4

- Ans
- ☒ 1. 6.10
  - ☒ 2. 2.49
  - ☒ 3. 1.24
  - ☒ 4. 3.05

Q.84 The process of surface high wall recovery by making openings into the seam without removing the overburden is called \_\_\_\_\_.

Question ID : 2391302822

Status : Answered

Chosen Option : 1

- Ans
- ☒ 1. auger mining
  - ☒ 2. strip mining
  - ☒ 3. area mining
  - ☒ 4. contour mining

Q.85 Misaligned machine component creates one of the following:

Question ID : 2391302867

Status : Answered

Chosen Option : 2

- Ans
- ☒ 1. power overload
  - ☒ 2. bending moment

☒ 3. reduced rpm

☒ 4. machine fatigueness

**Q.86** A coal heading 4 m wide and 2.5 m high has an advance of 1 m per cycle. The amount of explosive used in blasting is 6 kg. Taking specific gravity of coal as 1.5, the powder factor is \_\_\_\_\_.

- Ans
- ☒ 1. 1.66 te/kg
  - ☒ 2. 2.99 te/kg
  - ☒ 3. 3.32 te/kg
  - ☒ 4. 2.50 te/kg

Question ID : 2391302815

Status : Answered

Chosen Option : 4

**Q.87** Find the correction for the curvature for the distance 2 km.

- Ans
- ☒ 1. 1.04 m
  - ☒ 2. 0.314 m
  - ☒ 3. 4 m
  - ☒ 4. 0.214 m

Question ID : 2391302831

Status : Answered

Chosen Option : 2

**Q.88** The relationship of the tensions at the rope entering the wheel ( $T_1$ ) and the rope leaving the wheel ( $T_2$ ) in friction winder is given as:

- Ans
- ☒ 1.  $T_1/T_2 = e^\theta$
  - ☒ 2.  $T_1/T_2 = \mu e^\theta$
  - ☒ 3.  $T_1/T_2 = e^{k\theta}$
  - ☒ 4.  $T_1/T_2 = e^{\mu\theta}$

Question ID : 2391302847

Status : Answered

Chosen Option : 4

**Q.89** The number of satellites and orbital planes in a GPS constellation (US system) are:

- Ans
- ☒ 1. 24 and 6
  - ☒ 2. 21 and 3
  - ☒ 3. 25 and 5
  - ☒ 4. 24 and 4

Question ID : 2391302855

Status : Answered

Chosen Option : 1

**Q.90** In a contoured map if there are higher values inside the loop it indicates:

- Ans
- ☒ 1. Ridge
  - ☒ 2. Valley
  - ☒ 3. Plane land
  - ☒ 4. None of the other options

Question ID : 2391302889

Status : Answered

Chosen Option : 2

**Q.91** Most popular hydraulic fluid used in power supports is:

- Ans
- ☒ 1. emulsion of 20% oil and 80% water
  - ☒ 2. emulsion of 5% water and 95% oil
  - ☒ 3. emulsion of 5% oil and 95% water
  - ☒ 4. emulsion of 20% water and 80% oil

Question ID : 2391302910

Status : Answered

Chosen Option : 2

**Q.92** A locomotive weighs 20 tonne and the adhesion to tracks is 2246 N per tonne. What will be the tractive effort?

- Ans
- ☒ 1. 44920
  - ☒ 2. 4583.6
  - ☒ 3. 224.6
  - ☒ 4. 112.3

Question ID : 2391302846

Status : Answered

Chosen Option : 1

Q.93 Most of the caking coals are:

- Ans
- ☒ 1. lignite
  - ☒ 2. None of the other options
  - ☒ 3. bituminous
  - ☒ 4. anthracite

Question ID : 2391302894

Status : Answered

Chosen Option : 3

Q.94 The tool used to correct borehole deviation is:

- Ans
- ☒ 1. string shot
  - ☒ 2. whipstock
  - ☒ 3. ratchet
  - ☒ 4. kelly

Question ID : 2391302824

Status : Answered

Chosen Option : 2

Q.95 The staff reading at a point A on the floor of a mine is 1.250 m. The R.L. of point A is 120.450 m. What will be the R.L. of the roof point B, if the staff reading at B is 1.560 m?

- Ans
- ☒ 1. 120.140 m
  - ☒ 2. 120.450 m
  - ☒ 3. 121.450 m
  - ☒ 4. 123.260 m

Question ID : 2391302905

Status : Answered

Chosen Option : 4

Q.96 The scales of the mine plans are generally required to be maintained on the scale of:

- Ans
- ☒ 1. 1 : 4000
  - ☒ 2. 1 : 330
  - ☒ 3. 1 : 2000
  - ☒ 4. 1 : 2500

Question ID : 2391302902

Status : Answered

Chosen Option : 3

Q.97 Pop shooting or plaster shooting is a type of:

- Ans
- ☒ 1. Primary Blasting
  - ☒ 2. Clay Capping
  - ☒ 3. Secondary Blasting
  - ☒ 4. Muffling

Question ID : 2391302879

Status : Answered

Chosen Option : 3

Q.98 Among the mentioned mining applications below, which one cannot be performed by GPS?

- Ans
- ☒ 1. Monitoring of Roadheaders in an underground development gallery
  - ☒ 2. Updating Opencast Mine Information Systems
  - ☒ 3. Tracking of Auxiliary Equipments in Opencast mines
  - ☒ 4. Automation of Truck Dispatch System

Question ID : 2391302883

Status : Answered

Chosen Option : 1

Q.99 Hoskold's formula is used for:

- Ans
- ☒ 1. depreciation
  - ☒ 2. speculative rate of return
  - ☒ 3. ore reserve calculation
  - ☒ 4. salting

Question ID : 2391302853

Status : Answered

Chosen Option : 1



Q.10  
0

For washing of fine coal:

Ans

- ☒ 1. None of the other options
- ☒ 2. Heavy media bath is used
- ☒ 3. Flotation is used
- ☒ 4. Jig is used

Question ID : 2391302900

Status : Answered

Chosen Option : 4