

ASE-2

PROVISIONAL ANSWER KEY (CBRT)

Name of The Post

Mine Sirdar (Sahayak), Class-3 (GMDC)

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Instructions / સૂચના

Candidate must ensure compliance to the instructions mentioned below, else objections shall not be considered: -

- (1) All the suggestion should be submitted in prescribed format of suggestion sheet Physically.
- (2) Question wise suggestion to be submitted in the prescribed format (Suggestion Sheet) published on the website.
- (3) All suggestions are to be submitted with reference to the Master Question Paper with provisional answer key (Master Question Paper), published herewith on the website. Objections should be sent referring to the Question, Question No. & options of the Master Question Paper.
- (4) Suggestions regarding question nos. and options other than provisional answer key (Master Question Paper) shall not be considered.
- (5) Objections and answers suggested by the candidate should be in compliance with the responses given by him in his answer sheet. Objections shall not be considered, in case, if responses given in the answer sheet /response sheet and submitted suggestions are differed.
- (6) Objection for each question shall be made on separate sheet. Objection for more than one question in single sheet shall not be considered & treated as cancelled.

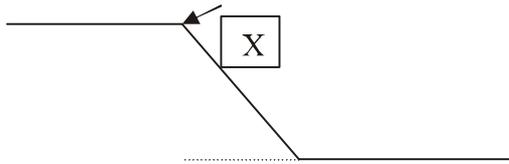
ઉમેદવારે નીચેની સૂચનાઓનું પાલન કરવાની તકેદારી રાખવી, અન્યથા વાંધા-સૂચન અંગે કરેલ રજૂઆતો ધ્યાને લેવાશે નહીં

- (1) ઉમેદવારે વાંધા-સૂચનો નિયત કરવામાં આવેલ વાંધા-સૂચન પત્રકથી રજૂ કરવાના રહેશે.
- (2) ઉમેદવારે પ્રશ્નપ્રમાણે વાંધા-સૂચનો રજૂ કરવા વેબસાઇટ પર પ્રસિધ્ધ થયેલ નિયત વાંધા-સૂચન પત્રકના નમૂનાનો જ ઉપયોગ કરવો.
- (3) ઉમેદવારે પોતાને પરીક્ષામાં મળેલ પ્રશ્નપુસ્તિકામાં છપાયેલ પ્રશ્નક્રમાંક મુજબ વાંધા-સૂચનો રજૂ ન કરતા તમામ વાંધા-સૂચનો વેબસાઇટ પર પ્રસિધ્ધ થયેલ પ્રોવિઝનલ આન્સર કી (માસ્ટર પ્રશ્નપત્ર)ના પ્રશ્ન ક્રમાંક મુજબ અને તે સંદર્ભમાં રજૂ કરવા.
- (4) માસ્ટર પ્રશ્નપત્ર માં નિર્દિષ્ટ પ્રશ્ન અને વિકલ્પ સિવાયના વાંધા-સૂચન ધ્યાને લેવામાં આવશે નહીં.
- (5) ઉમેદવારે જે પ્રશ્નના વિકલ્પ પર વાંધો રજૂ કરેલ છે અને વિકલ્પ રૂપે જે જવાબ સૂચવેલ છે એ જવાબ ઉમેદવારે પોતાની ઉત્તરવહીમાં આપેલ હોવો જોઈએ. ઉમેદવારે સૂચવેલ જવાબ અને ઉત્તરવહીનો જવાબ ભિન્ન હશે તો ઉમેદવારે રજૂ કરેલ વાંધા-સૂચન ધ્યાનમાં લેવાશે નહીં.
- (6) એક પ્રશ્ન માટે એક જ વાંધા-સૂચન પત્રક વાપરવું. એક જ વાંધા-સૂચન પત્રકમાં એકથી વધારે પ્રશ્નોની રજૂઆત કરેલ હશે તો તે અંગેના વાંધા-સૂચનો ધ્યાને લેવાશે નહીં.

001. Maximum accidents in mines in India are caused due to
 (A) Roof fall (B) Inundation
 (C) Slope Failure (D) Fire
002. Dozer operator should park the dozer
 (A) Close to shovel
 (B) At the specified place of parking and the blade of dozer should rest on the ground
 (C) At the stable ground with the blade elevated
 (D) At the edge of the dump with anchors
003. In an open cast mines what is the maximum number of shots to be fired by shot firer with multi shot exploder.
 (A) 120 (B) 115
 (C) 110 (D) 100
004. Fly Rock in opencast mining is controlled by
 (A) Secondary blasting (B) Cushion blasting
 (C) Muffle blasting (D) Smooth blasting
005. Horizontal ledges situated on the non-productive side of the open pit and serving to accommodate the transportation road is called
 (A) Trench (B) Berm
 (C) Haul Road (D) None of the above
006. Brazilian test is used for
 (A) UCS determination (B) Tensile strength determination
 (C) Shear strength determination (D) None of the above
007. Which of the following are the examples of an inadequately maintained haul road?
 (A) Pot holes or washouts (B) Inadequate gradient
 (C) Bumps and muddy areas (D) All of the above
008. RQD stands for
 (A) Rock Quality Designation (B) Rock Quality Determination
 (C) Rock Quantity Determination (D) Rock Quantity Density
009. Slope Stability Radar is used in Opencast mining for measurement of
 (A) Compressive strength of rock (B) Rock Stress
 (C) Water level (D) Rock Displacement
010. Ultimate Pit slope is the angle made by the imaginary line joining the –
 (A) Average of the all bench angles.
 (B) Top most crest of the bench to bottom most toe of the bench.
 (C) Top most toe of the bench to the bottom most toe of the bench.
 (D) Top most crest of the bench to bottom most crest of the bench.
011. Full form of DGPS?
 (A) Differential Global Position Set (B) Digital Geo Positioning System
 (C) Data Geometrical Positioning System (D) Differential Global Positioning System
012. Which of the following term is not related with opencast mines
 (A) Bench (B) Ramp
 (C) Decline (D) Dump

013. Which of the following statement is correct?
 (A) Factor of safety increases with increase in moisture content of Rock
 (B) Factor of safety increases with increase in strength of Rock
 (C) Factor of safety increases with increase in bench height
 (D) Factor of safety increases with increase in number of benches
014. Which of the term is not related to open cast mining
 (A) Crest (B) Highwall
 (C) Winze (D) Boxcut
015. Skrew feed mechanism is used in
 (A) Drilling (B) Digging
 (C) Blasting (D) None of the above
016. Coal formation takes place in the following order
 (A) Peat- lignite - anthracite - bituminous (B) Peat - lignite - bituminous - anthracite
 (C) Bituminous - peat - lignite - anthracite (D) Lignite - peat - bituminous - anthracite
017. Bentonite chemical is used for
 (A) Sealing crack (B) Surveying borehole deviation
 (C) Preparing mud flush (D) None of the above
018. Sequence control system is used in
 (A) Belt conveyer (B) Dumpers
 (C) Excavating machine (D) None of the above
019. The co-efficient of static friction between wheels & rail for locomotive is usually
 (A) 0.2 (B) 0.4
 (C) 0.6 (D) 0.8
020. Convert the air pressure of 10 kg/m² into Pa.
 (A) 9.81 Pa (B) 98.1 Pa
 (C) 100 Pa (D) 10 Pa
021. In an open cast mine, Section 22 under Mines Act is imposed by
 (A) Manager (B) Safety officer
 (C) DGMS (D) State government
022. Minor injuries shall be sent to Regional Inspector
 (A) Once in a three months (B) Once in a month
 (C) Once in a year (D) Once in a six months
023. Voltage limits shall not exceed for general lighting in opencast mines?
 (A) 125 Volts (B) 650 Volts
 (C) 250 Volts (D) 11 KV
024. Sub grade drilling in opencast mine is done for
 (A) More fragmentation of blast (B) Avoiding toe on the bench
 (C) For supporting bench (D) For controlled blasting
025. What is the full form of RMR?
 (A) Room Miner Retreat (B) Rock Major Reform
 (C) Rock Mass Rating (D) Refer Move Ramp

026. Name the X part of the bench in opencast mine



- (A) Crest of the bench (B) Sloping side
(C) Section of the bench (D) Viewing point of the bench
027. Back hoe shovel sits on the
(A) Bottom of the bench for digging upward (B) Side of the bench for trimming
(C) Platform to avoid falling (D) Top of the bench for digging below
028. CO₂ is treated as best extinguisher for
(A) Coal fire (B) Wood fire
(C) Electrical fire (D) Chemical fire
029. A building, where explosives and detonators are stored, is called
(A) Shelter (B) Magazine
(C) Store (D) House
030. Jigging or reciprocating movement is associated with
(A) Belt conveyor (B) Shaker conveyor
(C) Diesel locomotive (D) Cable belt conveyor
031. A gas having a pressure of 10 Pa and a volume of 10 m³ is to be compressed to a volume of 1 m³. Calculate the pressure of resulting gas as per Boyle's Law.
(A) 90 Pa (B) 1000 Pa
(C) 98 Pa (D) 100 Pa
032. The number of man days in the year 2014 is 26500, rest days are 54, and non working days due to sick are 46. Find the persons ordinarily employed in the Mine. Consider the year means 365 days.
(A) 110 (B) 120
(C) 100 (D) 90
033. As per regulation 106 MMR 1961, no tree, loose stone or debris shall remain within a distance of _____ from the edge or side of excavation.
(A) 5 m (B) 4 m
(C) 3 m (D) 2 m
034. Scale of the map is 1:10000, calculate the actual distance in meters if the measured length on map is 5 cm.
(A) 500 m (B) 50 m
(C) 5000 m (D) 5 m
035. ZAP stands for
(A) Zonal Accident Point (B) Zero Accident Point
(C) Zero Accident Potential (D) None of the above
036. As per Safety Management Plan provisions, the elimination of any recorded risk is a duty of
(A) Manager (B) Safety Officer
(C) Safety Committee (D) Mining Sirdar

037. While conducting Job Safety Analysis (JSA), it is not necessary to
 (A) Identify the hazards (B) Identify the steps in the activity
 (C) Calculate risk score (D) Consider existing controls
038. Emergency plan for fire in a mine should not include the following
 (A) Sufficient fire fighting equipment (B) Payment of compensation
 (C) First aid & medical assistance (D) Ambulance for victim transport
039. The distribution of the debris load evenly on the dumper is necessary for
 (A) It can take more load (B) Proper balance of the machine
 (C) Overloading (D) Smooth operation of engine
040. Secondary blasting is the technique of
 (A) Re-blasting (B) Control blasting
 (C) Solid blasting (D) None of the above
041. In Opencast Mining, the portion which is extracted from the working bench is termed as
 (A) Cut (B) Bank width
 (C) Bench face (D) Bench width
042. Calculate the volume, in liters, of a container having dimensions as $2\text{ m} \times 1.5\text{ m} \times 1.5\text{ m}$
 (A) 450 L (B) 45 L
 (C) 4.5 L (D) 4500 L
043. Who is the chairman of safety committee
 (A) Safety officer (B) General manager
 (C) CMD (D) Manager
044. Which of the following is not a personal safety gadget
 (A) Mask (B) Hand gloves
 (C) Safety belt (D) Stretcher
045. In a mine accident frequency rate is calculated in terms of per _____ person employed
 (A) 100 (B) 1000
 (C) 10000 (D) 100000
046. Differential pressure measurements were made using a U-tube manometer. The difference in height was 10 mm when U tube was vertical. Calculate the approximate pressure difference in Pa between two limbs, when liquid used had a density of 0.8 g/cc.
 (A) 70 Pa (B) 700 Pa
 (C) 80 Pa (D) 800 Pa
047. SMP stands for
 (A) Safety Management Plan (B) Surface mining plan
 (C) Safe mine plan (D) None of the above
048. The first rescue station in India was setup at
 (A) Rampura Agucha mines (B) Khetri copper mines
 (C) Hatti gold mine (D) Kolar Gold Field
049. The jackhammer drill operated with compressed air, at each stroke, the drill bit is turned through _____ of the one revolution?
 (A) 1/4 (B) 1/12
 (C) 1/2 (D) 1/8

050. Seat belt is used by:
 (A) Blaster (B) Drill operator
 (C) Pump operator (D) HEMM operator
051. Charging of lead acid battery of locomotives gives off
 (A) H₂ (B) CH₄
 (C) H₂S (D) NO₂
052. What is the purpose of dragline in opencast mine?
 (A) Removal of overburden in mine (B) Transportation of coal
 (C) Digging of coal (D) Draining water
053. What type of rock is Sandstone as per its origin?
 (A) Igneous (B) Metamorphic
 (C) Sedimentary (D) None of the above
054. What is the meaning of stripping ratio in Opencast mine?
 (A) Angle of bench : angle of pit (B) Calorific vale of coal : ash percentage
 (C) Depth of mine : area (D) m³ of OB : ton of coal
055. Gassy seam of the second degree means a coal seam or part thereof lying within the precincts of a mine means
 (A) Rate of emission of methane gas per tonne of coal is between 0.5 m³ and 15 m³
 (B) % of inflammable gas in the general body of air is less than 0.1.
 (C) Rate of emission of inflammable gas per tonne of coal is between 1 m³ and 10 m³
 (D) Rate of emission of methane gas per tonne of coal is more than 10 m³
056. In opencast workings, which is not the duty of Mine Sirdar?
 (A) To ensure sides of benches are kept properly dressed
 (B) To ensure stability of benches is not endangered
 (C) To ensure haul roads are kept maintained
 (D) To ensure dumpers are in sufficient number
057. Minimum length of detonator lead wire is
 (A) 1.2 metre (B) 1.5 meter
 (C) 2.0 meter (D) 1.6 meter
058. Which of the following communication system is used commonly in surface mines?
 (A) Walkie-talkie (B) Leaky feeder
 (C) Email (D) Fax
059. Base of the overburden dump should not have
 (A) Basalt (B) Black cotton soil
 (C) Sand stone (D) Shale
060. If the air velocity in the roadway is 10 m/min and the cross-section area is 8 m². then calculate the quantity of air flow in the gallery
 (A) 1.25 m³/min (B) 0.8 m³/min
 (C) 80 m³/min (D) 12.5 m³/min
061. First aid room is created when numbers of people working in the mine are more than
 (A) 100 (B) 50
 (C) 150 (D) 200

062. In a mine the sirdar is appointed under CMR 2017 Regulation number
 (A) 129 (B) 123
 (C) 134 (D) 130
063. What is the minimum age required for appearing in DGMS exams
 (A) 18 years (B) 20 years
 (C) 21 years (D) None of the above
064. Rules and regulations under Mines Act can be made by which of the following?
 (A) Committee under Section 12 of Mines Act
 (B) Chief Inspector of Mines
 (C) Central Government
 (D) State Government
065. HEMM shall not be driven over
 (A) Hauling road of a mine (B) Designated path
 (C) Marching road (D) Electric cables or water lines
066. Identify from the following characteristics of safety management system. which belong to either :
 (a) Rule based safety management system or (b) Risk based safety management
 (i) Reactive (ii) Proactive (iii) Focused in human error (iv) Focused on system error
 (v) enforcement driven
 (A) (a) i, ii, iii (b) iv, v (B) (a) ii, iv (b) i, ii, v
 (C) i, ii (b) iii, iv, v (D) (a) i, iii, v (b) ii, iv
067. Define Environmental Management Plan (EMP)
 (A) An EMP is a site-specific plan developed only to ensure that all necessary measures are identified and implemented in order to protect forest.
 (B) An EMP is a site-specific plan only to ensure that all necessary measures are taken and to protect water.
 (C) An EMP is a site-specific plan developed to ensure that all necessary measures are identified and implemented in order to protect the environment and comply with environmental legislation.
 (D) An EMP is a site-specific plan developed only to protect the villages.
068. Calculate the tonnage of coal handled by shovel bucket of 3.0 m³ capacity, if the tonnage factor of loose coal is 1.2 t/m³
 (A) 2.5 t (B) 3.0 t
 (C) 3.6 t (D) 3.2 t
069. CMR 1957 is updated in
 (A) Year 2015 (B) Year 2016
 (C) Year 2017 (D) Year 2018
070. Refresher training is needed for
 (A) New worker (B) Worker already deployed
 (C) Contract worker (D) Mischievous worker
071. The hole dia of the jack hammer drill is?
 (A) Upto 40 mm (B) 40 - 100 mm
 (C) 60 - 125 mm (D) 150 - 300 mm

072. What should be the minimum clearance between drill hole and explosive cartridge while charging the hole.
- (A) 2 mm (B) 2.5 mm
(C) 4 mm (D) 3 mm
073. Proximity warning device is to be fitted on as an additional safety feature.
- (A) Excavators (B) Water tankers
(C) Drilling equipment (D) Dumpers/Tippers
074. Which of the following statement is correct
- (A) Bench height is always equal to bench width
(B) Bench height is always greater than bench width
(C) Bench height is always less than bench width
(D) None of the above
075. In percussive drilling the rock is broken by following action
- (A) Crushing (B) Chipping
(C) Both (A) and (B) (D) None of the above
076. Toe of a bench in opencast mine is
- (A) Top of the bench (B) Bottom of the bench
(C) Inclination of the bench (D) Height of the bench
077. Cost of an accidents includes
- (A) Direct and indirect cost to the employee and employer
(B) Loss in production revenue only
(C) Reduction of profit
(D) Charges of additional royalty
078. Following are the hazardous energy types used in mine if uncontrolled
- (A) Solar and hydro energy (B) Nuclear and solar energy
(C) Wind and hydro energy (D) Mechanical and chemical energy
079. Calculate the volume of rock blasted per hole for 8 m depth, 2 m burden & 3 m spacing during blasting.
- (A) 40 m³ (B) 24 m³
(C) 48 m³ (D) 16 m³
080. Minor injuries shall be recorded in Form -
- (A) 'J' (B) 'K'
(C) 'Q' (D) 'R'
081. Productivity of dumper depends on
- (A) Road profile (B) Mobility of dumper
(C) Training of operator (D) All of the above
082. In alluvial, the height of the bench shall not exceed
- (A) 1.0 meter (B) 1.5 meter
(C) 2.0 meter (D) 2.5 meter
083. Spacing is the distance between
- (A) Free face to first row (B) Two adjacent holes in same row
(C) First row and last row (D) First row and 2nd row

084. Which of the following term is not related with opencast mines
 (A) Toe (B) Subgrade drilling
 (C) Keps gear (D) Backfilling
085. Which of the following is not used in opencast mine
 (A) Drill machine (B) Road grader
 (C) Endless haulage (D) Belt conveyor
086. Socket in blasting is related to
 (A) Misfire short
 (B) Safety fuse
 (C) Detonator
 (D) Part of blast hole remaining after being blasted
087. The speed of the moving vehicle operating in the opencast mine shall be maximum
 (A) 20 Km/Hr (B) 25 Km/Hr
 (C) 30 Km/Hr (D) 22 Km/Hr
088. If the reduced levels of two points A & B are 120 m and 150 m respectively. Find the vertical distance between them.
 (A) 20 m (B) 30 m
 (C) 135 m (D) 25 m
089. Notice of Medical examination under 29D of Mines Rules 1955 shall be given in _____
 (A) Form 'M' (B) Form 'N'
 (C) Form 'Q' (D) Form 'R'
090. Productivity of shovel depends on
 (A) Work cycle (B) Type of material
 (C) Operator's skill (D) All of the above
091. Which type of drilling, the tricone bit is used
 (A) Percussive (B) Rotary percussive
 (C) Rotary (D) Auger
092. First-Aid Room shall have floor space not less than.
 (A) 5 Sq.Mtr (B) 10 Sq. Mtr
 (C) 50 Sq.Mtr (D) 15 Sq.Mtr
093. What is the minimum height of roof in case of flat roof Rest Shelters?
 (A) 2.5 Mts (B) 3.0 Mts
 (D) 3.5 Mts (C) 1.8 Mts
094. The optimum number of dumpers allocated to a shovel depends on
 (A) Size of the shovel (B) The distance of the haul road
 (C) (A) and (B) both are correct (D) Tonnage to be handled
095. Accidents are just don't happen but
 (A) They are caused (B) They are anticipated
 (C) They occur as act of god (D) They are due confidence of work

096. Convert 10 m of water gauge into Pa.
 (A) 9.81×10^3 (B) 9.81×10^4
 (C) 9.81×10^5 (D) 9.81×10^2
097. If a shovel can excavate upto a height of h meter in that case maximum height of a bench can be
 (A) h m (B) 1.2h m
 (C) (h + 5) m (D) None of the above
098. Which of the following is not related to Dragline
 (A) Hoist (B) Rope
 (C) Boom (D) Crowd
099. Core recovery depends on
 (A) Strength of Rock (B) Fracture present in the rock
 (C) Type of Rock (D) All of the above
100. If 10 m^3 of overburden is required to be removed for removing 1t of mineral, what would be the stripping ratio.
 (A) 1/10 (B) 1/5
 (C) 10/1 (D) 1/1
101. Coal handling plant doesn't have
 (A) Rubber belt (B) Side roller
 (C) Cutter (D) Drum
102. Stripper shovel is used in opencast mine for
 (A) Stripping the mineral (B) Stripping debris
 (C) Stripping overburden (D) Digging of coal
103. The blasting technique used for controlled throw of overburden is known as
 (A) Cast blasting (B) Angle blasting
 (C) Plaster shooting (D) Pop shooting
104. Contours in a topographic map
 (A) Lines joining the point of same elevations (B) Shows the level of depth of mine
 (C) Used for calculating the area (D) None of the above
105. The delay between the ignition and the application of the heat source is termed as
 (A) Incubation period (B) Saturation period
 (C) Thermal conductivity (D) Lag on ignition
106. What is the full form of PETN?
 (A) Penta ethane tetra nitrate (B) Penta erythritol trinitrate
 (C) Penta erythritol tetra nitrate (D) Penta ethane tolluine nitrogen
107. The reciprocal of safety is
 (A) Risk (B) Severity
 (C) Substitution (D) Control
108. High temperature, humidity, noisy and dusty environment in a mine with respect to safety is amount to
 (A) Bad environment for work (B) Stressed working conditions
 (C) Unsafe conditions (D) Bad vision

109. PPE for miner includes
 (A) Helmet and safety shoes (B) Pen and diary
 (C) Safety booklet (D) Hand plan of a mine
110. Terrace cut is given with the help of
 (A) Scrapper (B) Continuous Miner
 (C) Bucket Wheel Excavator (D) Dipper Shovel
111. In respect of dipper shovel, crowding means
 (A) Raising bucket to dumper height (B) Moving the bucket backward and forward
 (C) Swinging the bucket round (D) Moving the shovel from one place to another
112. The machine best suited for digging below the level on which it stands and loads the dumper is?
 (A) Tractor shovel (B) Stripper shovel
 (C) Back hoe (D) Dipper shovel
113. Which of the following machine is not related with opencast mines?
 (A) Plow (B) Surface Miner
 (C) Scrapper (D) Ripper
114. Calculate the charge per hole if the burden is 4 m and spacing is 6m for a bench height of 10 m and a powder factor of 0.4 kg /m³.
 (A) 86 kg (B) 96 kg
 (C) 90 Kg (D) 98 Kg
115. The machine employed for loading fragmented rock from a bench standing on the floor of the bench is
 (A) Back hoe Shovel (B) Dipper Shovel
 (C) Surface Miner (D) Dragline
116. Factor of safety for stability of benches depends on the
 (A) Height of the bench (B) Slope angle
 (C) Strength of the rock (D) All of the above
117. Burden is the distance between
 (A) Free face to first row (B) Two adjacent holes in same row
 (C) First row and last row (D) Toe and crest
118. The height of the bench is decided by?
 (A) Drill machine capacity
 (B) Height of the dumper
 (C) Height of the boom of shovel above the floor
 (D) Dumper capacity
119. Retarder braking system in a truck;
 (A) Is primarily to protect the service break from excess heat and save wear
 (B) Can stall the engine if the specified engine speed is not maintained
 (C) Is the preferred means of speed control when travelling down grades
 (D) All of the above

120. If the actual distance between two points is 2 km and the distance measured on map is 20 cm. Calculate RF
 (A) 1:100 (B) 1:20000
 (C) 1:10000 (D) 1:100000
121. If sum of four angles of a pentagon is 500 degrees, calculate the measure of fifth angle.
 (A) 20° (B) 30°
 (C) 40° (D) 50°
122. Which of the following machine is related with opencast mines
 (A) Dragline (B) SDL
 (C) Shearer (D) Shuttle cars
123. Any manual opencast coal mine, the bench height should not exceed
 (A) 2 meter (B) 3 meter
 (C) 4 meter (D) 5 meter
124. The maximum gradient of ramp in opencast mine should be
 (A) 1 in 8 (B) 1 in 9
 (C) 1 in 10 (D) 1 in 12
125. "Super elevation" is a term used for designing
 (A) Benches (B) Haul Roads
 (C) Dumps (D) Magazine
126. Full form of TNT
 (A) Trinitro Toluene (B) Total nitrogen test
 (C) Total NONEL test (D) None of the above
127. The current required for the ignition of the fuse head is?
 (A) 2 amp (B) 1 amp
 (C) 0.5 amp (D) 3.5 amp
128. Magazine should be away from all building at least _____ m?
 (A) 50 (B) 75
 (C) 95 (D) 120
129. All operators of HEMM and tipper _____ before moving off from parked position
 (A) Shall start machine (B) Shall sound one horn
 (C) Shall raise engine (D) Shall shout
130. Minimum qualifications needed for Mine sirdar certificate examination is
 (A) Literate as per Government norms (B) Secondary School Certificate
 (C) Senior Secondary School Certificate (D) Diploma in Mining Engg.
131. Permissible Peak Particle Velocity (PPV) due to blasting at the foundation level of structures in mining areas depend on ownership of building, type of structure and
 (A) Dominant Excitation Frequency (B) Velocity of Detonation
 (C) Air Overpressure (D) Noise of blasting
132. Which coal is more prone to spontaneous combustion?
 (A) High thermal conductivity (B) Low porosity
 (C) With high pyrite content (D) Anthracite coal

133. An overhead line is passing over a haul road. What should be the minimum clearance of lowest conductor over haul road?
- (A) At least 15 m (B) At least 10 m
 (C) At least 12 m (D) At least 8 m
134. VOD is a term related to
- (A) Air blast (B) Explosive
 (C) Exploder (D) Blast vibrations
135. Schmidt Hammer Rebound Test is carried out in rock for determining _____.
- (A) Shear strength (B) Tensile strength
 (C) Modulus of elasticity (D) Uniaxial compressive strength
136. Productivity of a highly mechanized coal mine depends on
- (A) % Availability of equipment
 (B) % Utilisation of equipment
 (C) % Manpower availability
 (D) % Availability of equipment and % Utilisation of equipment
137. Factor of safety in slope stability analysis is a ratio between
- (A) Mobilizing force to Resistive force (B) Resistive force to Mobilising force
 (C) Mobilising strain to Resistive stress (D) Resistive strain to Mobilising stress
138. A surface coal mine is worked by 10 m³ shovel – 85 tonne dumper combination. If the shovel bucket fill factor is 0.8, the material swell factor is 0.75 and the average in-situ sp.gr. of the material is 3 tonne/m³. How many shovel bucket loads will be required to fill a dumper?
- (A) 3 (B) 4
 (C) 5 (D) 6
139. Factor of safety of slope of an opencast mine _____ with increase in pore water pressure.
- (A) Goes up (B) Reduces
 (C) Remains unchanged (D) Fluctuates
140. Unit of blast induced vibration is
- (A) mm/s (B) Pascal
 (C) dB (D) Nm
141. Testing of parking brake of a dumper is done
- (A) On maximum gradient of haul road (B) On level ground
 (C) On parking area (D) During idling
142. Decoupled charging results in
- (A) Poor fragmentation but less vibration (B) Better fragmentation but more vibration
 (C) Better fragmentation and higher noise (D) Better fragmentation and less vibration
143. Which of the following statement is more relevant related to fire fighting?
- (A) Foam extinguisher when directed against a fire, the foam spreads over the entire fire area covering or blanketing it, thus cutting oxygen supply.
 (B) Wet foam layer produces a cooling effect to extinguish the fire.
 (C) Foam extinguisher when directed against a fire, the foam spreads over the entire fire area covering or blanketing it, thus cutting oxygen supply; and Wet foam layer produces a cooling effect to extinguish the fire.
 (D) Foam extinguisher is generally recommended for fighting electrical fire.

144. In respect of every person killed or injured in an accident, particulars shall be given to the CIM in
 (A) Form-I (B) Form-IV A
 (C) Form-V (D) Form-IVB
145. Safety leadership is function of competent person in a mine which includes
 (A) Giving safety instructions at the beginning of shift
 (B) Assuming the workers are aware of safety
 (C) Machine operators are trained and know their job
 (D) Asking subordinate look for the work
146. Departure from an accepted normal or correct procedure or practice is called as
 (A) Mistake of understanding (B) Non-obedience
 (C) Unsafe act (D) Using own wisdom
147. Accident is
 (A) Unplanned and undesirable event (B) Controllable incidence
 (C) Expected mishaps (D) Only destructive event
148. Write the full form of EDM
 (A) Electronic Distance Measurement (B) Electrical Detonating Machine
 (C) Environment Damage Management (D) Endangering Double Mine
149. Which of the following is not responsible for efficient breaking of rock?
 (A) Correct type of explosive (B) Correct amount of charge per hole
 (C) Type of exploder (D) Proper stemming
150. PVC belt possesses
 (A) Fire resistant property
 (B) Anti slippage property
 (C) High co-efficient friction value than rubber belt
 (D) High capacity of transportation
151. Proneness to spontaneous heating is high in the following crossing point temperature range-
 (A) 120° C to 140° C (B) 140° C to 155° C
 (C) More than 155° C (D) None of the above
152. Which of the following factor is considered for calculation of cycle time of excavating machine?
 (A) Swell Factor (B) Bucket factor
 (C) Swing Factor (D) Drill factor
153. In an opencast mine, bench failure has occurred in which a triangular portion has come out. The type of failure is
 (A) Curved failure (B) Wedge failure
 (C) Toppling up (D) Triangular failure
154. Minimum qualification for appointment as Manager of a coal mine with a production of 10000 tonnes per month and employ 500 or more persons daily
 (A) Second Class (B) First Class
 (C) Holder of Manager's Permit (D) Degree in Mining Engineering
155. Rescue Room shall be established when more than _____ persons employed, and rescue station shall be within a radius of _____ Km
 (A) 500, 50 (B) 200, 35
 (C) 100, 35 (D) 300, 50

156. The speed of the dumper/tipper on overburden dump
 (A) Shall not exceed 10 Km/hr while going towards the O.B. dump
 (B) Shall not exceed 20 Km/hr
 (C) Shall be 10 Km/hr while reversing
 (D) Shall be 25 Km/hr minimum
157. What is pop shooting?
 (A) To drill a hole into the boulder and blast (B) To blast a hole with subgrade drilling
 (C) To blast a hole with air deck (D) None of the above
158. Gradient of haul roads in opencast mine should not be more than
 (A) 1 in 10 (B) 1 in 12
 (C) 1 in 16 (D) 1 in 18
159. Which of the following is not a safety feature of Belt conveyors?
 (A) Limit switch (B) Pullchord Switch
 (C) Hold back (D) Vulcanizing device
160. If compressive strength of coal is 100 kg/cm², calculate its strength in MPa.
 (A) 9.81 MPa (B) 10 MPa
 (C) 98.1 MPa (D) 981 MPa
161. Which of the following is not related to jack hammer
 (A) Riffle nut (B) Throttle valve
 (C) Screw feed (D) Ratchet mechanism
162. Place in a mine susceptible to more accidents than other is known as
 (A) Dangerous area (B) Accident proneness
 (C) Person negligence (D) Meager possibility
163. Provision of safety management plan is made in the CMR 2017 at regulation...
 (A) No. 105 (B) No. 110
 (C) No. 104 (D) No. 100
164. Which of the following is a modern method of training
 (A) Training using at trainer (B) Demonstration of new machine
 (C) Simulator training (D) Working as assistance to operator
165. Amount of explosive to be charged in a single shot hole is not dependent on
 (A) Nature of rock to be broken (B) Hole depth
 (C) Dia of hole (D) Type of drilling machine
166. Which of the following term is not used to describe fault in connection with rock?
 (A) Gradient (B) Hade
 (C) Up throw (D) Down throw
167. A person is said to be not employed in the mine
 (A) Who works as a Overman
 (B) Who works under appointment by the Manager
 (C) Who works in any office of the mine
 (D) Who works as a pump operator on contract in a residential colony belonging to the mine

168. As per M.V.T. Rules 1966 what is full day release system of training
- (A) Releasing a group of batch of workers belonging to the same trade at the end of shift
(B) Releasing a group of batch of workers belonging to the same trade, class or category from normal work
(C) Releasing a group of batch of workers belonging to the same mine at the beginning of the shift
(D) Releasing a group or batch of workers belonging to the other mine to carry training
169. Before operating the dumper/tipper, the operator is not required to personally inspect and test the following details
- (A) That the break, horn, tyre pressure and AVA are in proper working order.
(B) That the head light, back light & dash boards light are in working order.
(C) Fire extinguisher is provided.
(D) Production efficiency of the dumper
170. Which of the following is not the duty of shotfirer
- (A) Charging of hole (B) Stemming of hole
(C) Drilling of hole (D) Firing of explosive
171. Which of the following is the cause of "Slope failure"
- (A) Bench width **(B) Presence of faults**
(C) Drill hole diameter (D) Stripping ratio
172. Which of the following term is related with opencast mines
- (A) Bench Angle** (B) Gallery
(C) Panel (D) Goaf
173. If temperature of air in mine is 300° K, then what will be its temperature in degrees C
- (A) 300° **(B) 27°**
(C) 30° (D) 273°
174. The machine used for pushing loose material or for digging in earth is
- (A) Scraper (B) Shovel
(C) Dragline **(D) Dozer**
175. More number of near misses during the work may trap the worker in
- (A) Abandoned section of a mine **(B) An accident**
(C) Promotion in the job (D) Debris
176. Monitoring safety and health of mine worker is a safety management function, comes under
- (A) Controlling for the Safety** (B) Motivation for the Safety
(C) Assignment of responsibility (D) Preparation of emergency plan
177. Relay is a
- (A) Blasting device system **(B) Shock initiation system**
(C) Combustion device system (D) None of the above
178. The angle of the slope of the bench wall from the horizontal is called
- (A) Bench Slope Angle** (B) Ultimate Pit Slope Angle
(C) Angle of Draw (D) None of the above

179. It is not a braking system of dumper
 (A) Retarder (B) Parking brake
 (C) Service break (D) Stopper
180. In deep hole blasting, the depth of hole shall be more than
 (A) 5 meter (B) 10 meter
 (C) 3 meter (D) 20 meter
181. New miner training for safety is a part of induction training which consists of
 (A) Giving an idea about work environment & site-specific hazards
 (B) Machine fleet statistics & trouble shooting
 (C) Wages and bonus
 (D) Deployment as helper
182. When the mouth of the blasting hole is covered by heavy steel sheet, such blasting is known as
 (A) Chamber blasting (B) Muffled blasting
 (C) Cushion blasting (D) Deck blasting
183. The training in regional language is
 (A) Difficult to impart (B) Better for worker
 (C) Minimum as lack of resource (D) Poor due to bad explanation
184. Which of the following factor is considered for the improved fragmentation?
 (A) Type of explosive (B) Blasting pattern
 (C) Delay interval (D) All of the above
185. Protective equipment and guards provided, but not used is
 (A) Cumbersome method (B) Lack of awareness
 (C) Unsafe act (D) Bad attitude
186. Which of the firing pattern is not used in opencast blasting
 (A) Inline pattern (B) Diagonal pattern
 (C) V pattern (D) Burn cut firing pattern
187. Safety Management is a process of assuming acceptable levels of
 (A) Safety performance at the work places (B) Miner capacity for the work
 (C) Machine management in mine (D) Personal Management
188. Failure to explode entire charge of a hole is...
 (A) Burning shot (B) Thrown out shot
 (C) Misfire shot (D) None of the above
189. Planning for safety includes
 (A) Establishing the policy and setting goals (B) Encouraging leadership
 (C) Giving gifts to workers (D) Appointment of competent persons
190. Insufficient length of stemming may lead to
 (A) High powder factor (B) Blown out shots
 (C) Misfire shot (D) None of the above

191. Ignorance of rules, negligent at work and habit of using shortcuts to works are amount to
 (A) Unsafe attitude (B) Unsafe conditions
(C) Working for achieving good productivity (D) Earning gifts
192. The length of shot firing cable in open cast mine should not be less than?
(A) 18 m (B) 30 m
(C) 40 m (D) 50 m
193. Safety week is observed in a mine for
 (A) Promoting the safety awareness (B) Inspection purpose
(C) Knowing violations (D) Checking the behaviors of a worker
194. Which explosive is blasted by safety fuse?
(A) NG (B) Slurry
 (C) ANFO (D) Gunpowder
195. Consequences of high risk in a mine may lead to
(A) Abandoning the mine section (B) Workers loose interest in job
 (C) More lives lost or injuries (D) More reserves lost
196. Which of the following statement is not correct
(A) Controlled blasting is done to avoid fly rock
(B) Secondary blasting is done for big size boulders
 (C) Secondary blasting is done to avoid the toe formation
(D) Stemming is required to avoid the blownout shots
197. Continuous exposure to the hazard is
 (A) Working without break for entire shift at workplace
(B) Visiting work places many times
(C) Leaving the work place early after completion of job
(D) Inspection of workplaces when the problem occurs
198. The dumper/tipper operator shall use Audio Visual Alarm (AVA)
(A) While loading (B) While marching
 (C) While reversing (D) While overtaking
199. The most effective method of training is
(A) Off-site training (B) On-site training
(C) Online training (D) Training at vocational centre
200. In the context of surface mine development, a box cut is defined as
 (A) The initial cut made to open a mine
(B) The final cut to close the mine
(C) Any cut which must look like an open box
(D) The cut to extend haul road