PROENGR.IN

STUDY MATERIAL FOR MINE MANAGER CERTIFICATE & PSU EXAMS

- Mine Management, Legislation & Safety
- Mine Machinery & Electricity
- Mine Ventilation And Environmental Hazards
- Winning & Working
- Mine Surveying

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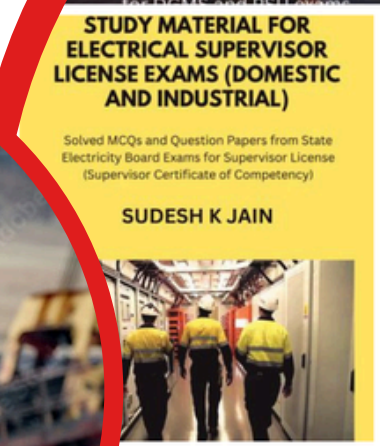

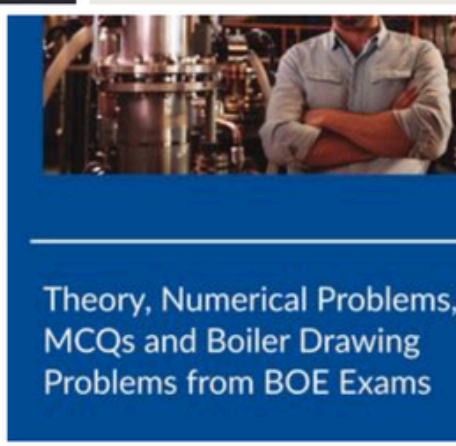



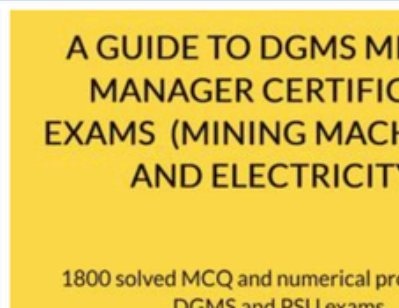

Northern Coalfields Limited, Singrauli
नार्दर्नकोलफील्ड्स लिमिटेड,सिंगरौली

SET-A

Post: Junior Overman T&S Gr.-C

Roll No. | | | | | | | | |

Maximum Marks: 100 **Time: 90 Minutes**

Number of Questions in this Booklet: 100(70+30)

General Instructions

1. Write your roll number in the space provided on the top of this page.
2. Please ensure that the question paper is sealed. Do not open the seal of the question paper unless instructed to do so.
3. Tally the number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given.
4. The question paper comprises of 100(Section A has 70 questions and Section B has 30 questions) multiple choice questions; each of one mark and there is no negative marking for wrong answers. The duration of the examination is 90 minutes.
5. The last page of the question paper is left blank for rough work. No separate sheets will be provided for rough work.
6. Please ensure to fill in your roll number on the question paper and OMR sheet, otherwise your paper will not be considered for evaluation.
7. The test is of objective type. Each objective question is followed by four options as A, B, C and D. please fill the correct/ best response by darkening the circle in the OMR answer sheet and not in question booklet.
8. **Use blue or black ball point pen only to fill your answers in the space provided in the OMR Sheet.** Please ensure to handover the question paper and OMR Sheet to the invigilator after completing it and do not leave the exam hall unless allowed to do so.
9. Canvassing and use of any unfair means and electronic device in the exam hall is strictly prohibited and may lead to cancellation of your candidature.
10. Present booklet is bilingual. Darken only one circle for each answer. **If you darken more than one circle it will not be evaluated.**
    Example:①②●④where (3) is the correct response.
11. OMR answer sheet will not be evaluated if any entry is modified by using whiteners or by any other means. Do not make any stray marks anywhere on OMR answer sheet.
12. In case of any ambiguity, English version will prevail.

सामान्य निर्देश

1. इस पृष्ठ के ऊपर नियत स्थान पर अपना रोल नंबर लिखिए।
2. कृपया सुनिश्चित कर लें कि प्रश्न पत्र की सील बंद है। जब तक निर्देशित न हो प्रश्न पत्र न खोलें।
3. कवर पृष्ठ पर छपे निर्देशानुसार प्रश्नो की संख्या को अच्छी तरह चेक कर ले कि ये पूरे हैं। दोषपूर्ण पुस्तिका जिनमे पृष्ठ / प्रश्न कम हो या दुबारा आ गए हो या सीरियल मे न हो अर्थात किसी भी प्रकार की त्रुटिपूर्ण पुस्तिका स्वीकार न करे तथा उसी समय उसे लौटाकर उसके स्थान पर दूसरी सही प्रश्न -पुस्तिका ले लें। इसके लिए आपको 5 मिनट दिये जाएंगे उसके बाद न तो आपकी प्रश्न -पुस्तिका वापस ली जाएगी और न ही आपको अतिरिक्त समय दिया जाएगा ।
4. प्रत्येक प्रश्न पत्र में कुल प्रश्नों की संख्या 100(भाग A में 70 प्रश्न एवं भाग B में 30 प्रश्न) है ।सभी प्रश्न बहु विकल्पीय है। सभी प्रश्न समान एवं 1 अंक के हैं तथा ऋणात्मक मूल्यांकन (निगेटिव मार्किंग) नहीं है। परीक्षा की अवधि 90 मिनट की है ।
5. रफ कार्य हेतु प्रश्न पत्र का अंतिम पृष्ठ खाली छोड़ा गया है । इसके लिए कोई अलग से पृष्ठ प्रदान नहीं किया जायेगा ।
6. कृपया प्रश्न पत्र तथा ओएमआर शीट पर अपना अनुक्रमांक अनिवार्य रूप से भरें नहीं तो आपकी ओएमआर शीट का मूल्यांकन नहीं होगा।
7. परीक्षा वस्तुनिष्ठ प्रकार की होगी। प्रत्येक वस्तुनिष्ठ प्रश्न के चार विकल्प A,B,C और D होंगे। आप ओएम्आर उत्तर पत्र में सही/सबसे सटीक उत्तर के सामने सर्कल को भरें। प्रश्न बुकलेट में अपना उत्तर न भरें।
8. **OMR शीट मे प्रविष्टी भरने के लिए काले अथवा नीले बॉल पॉइंट पेन का ही प्रयोग करें** और प्रश्न पत्र पूरा करने के उपरांत प्रश्न पत्र और ओएमआर पत्र कक्ष पर्यवेक्षक को अनिवार्य रूप से जमा करें। जब तक अनुमति न हो परीक्षा कक्ष को न छोड़े।
9. परीक्षा कक्ष में किसी प्रकार के अनुचित माध्यम तथा इलेक्ट्रॉनिक यन्त्र का प्रयोग न करें। ऐसा करते पाए जाने पर आपकी उम्मीदवारी निरस्त की जा सकती है ।
10. प्रस्तुत पुस्तिका द्विभाषीय है। प्रत्येक उत्तर के लिए एक सर्किल भरें। **यदि आपएक से अधिक सर्किल भरते हैं तो उनका मूल्यांकन नहीं किया जाएगा ।**
    उदाहरण: : ①②●④जबकि (3)सही उत्तर है।
11. यदि कोई भी प्रविष्टि वाईटनर या किसी अन्य माध्यम से संशोधित किया जाता है तो ओएमआर उत्तर पुस्तिका का मूल्यांकन नहीं किया जाएगा । ओएमआर उत्तर पत्रक पर अनावश्यक दाग न लगाये ।
12. अस्पष्टता की स्थिति में अंग्रेजी वर्जन मान्य होगा ।

Signature and Name of Candidate

(Signature)_____

(Name)_____

Signature and Name of Invigilator

(Signature)_____

(Name)_____

P.T.O.

Section-A

1	What is the minimum height of roof in case of flat roof rest shelters? (A) 2.5 Mtr. B) 3.0 Mtr. C) 1.8 Mtr. D) 3.5 Mtr.	
2	Proximity warning device is to be fitted -------as an additional safety features. (A)Excavators (B)Water tanks (C) Drilling of equipment (D) Dumper/ Tippers	
3	Flash Back Arrestor should be provided in ----- (A)Compressor (B)Gas welding/ Cutting Set (C) Generator (D) Weigh Bridge	
4	Voltage limits shall not exceed for General lighting in open cast Mines. (A)125 Volts (B)650 Volts (C) 250 Volts (D) 11 K. Volts	
5	Work man Inspector is designated by ------- in consultation with the registered trade Union in the Mine. (A)DGMS (B)Mine Manager (C) Owner/Agent (D) Foreman	
6	Maximum exposure limit of dust prescribed for 8 hrs. weighted average in Mine. (A)5Mg/m^3 (B)3Mg/m^3 (C) 7mg/m^3 (D) 10 mg/m^3	3 mg/m^3: This is the standard permissible limit for respirable dust (including coal dust) as per DGMS regulations in India
7	Which of the following features should be Shown in water danger plan? (A)River , Stream, Water course, Reservoir (B)Surface contour lines, dykes, Faults sorters geology (C) Highest flood level of the area (D) All of above	A comprehensive water danger plan for a mine must include a combination of surface water features, geological data, and flood level information to effectively assess and manage the risk of inundation.
8	Which of the following is true regarding the workers participation in safety management. (A)Safety Committee (B)Bipartite Committee (C) Tripartite Committee (D) All of the above	
9	Which of the following are not the safety feature of Belt conveyer? (A)Limit switch (B)Pull chord (C) Hold back (D) Vul canizing	
10	As per the CMR-2017 danger zone for blasting is an area falling in a radius of (A)100 m (B)150m (C) 500m (D) 300m	

11	Which of the following term is not related to open cast Mining ? (A)Box cut (B)High wall (C) Crest (D) Winze	
12	As per the provision, how much drinking water must be provided to Mine worker (A)1.5 Lit (B)1.3 Lit (C) 4 Lit (D) 2 Lit	
13	In a Mine where 1600 persons are ordinarily employed, the number of workman Inspector required as per the Rule (A)2 (B)3 (C) 4 (D) 5	
14	The Cap lamp used by the miner is – A)Intrinsically safe B) Flame proof C)None of a & b D) Capable to produce spark-	Miner's cap lamps used in underground mines are designed to be intrinsically safe. They are engineered to operate with such low electrical energy (voltage and current) that they cannot produce a spark or heat capable of igniting flammable gases or dust .
15	Which of the following is most difficult in opening open cast Mines? (A)Land acquisition and rehabilitation (B)Manpower recruitment (C) Green Belt vegetation (D)Customer selection	
16	Mechanized open Cast Mining in India is economically feasible at present if the Coal & OB ratio is up to. (A)1 in 2 (B)1 in 4 (C) 1 in 8 (D) 1 in 10	
17	The earliest indication of spontaneous heating of Coal can be given by (A)Make of CO2 (B)Sweating (C) Temperature rise (D) Name of the above	Sweating, or the deposition of moisture on surfaces, is widely recognized in mining literature as one of the very first visible signs of spontaneous heating in its early stages.
18	The grade which is available from a property after actual mining is (A)Computed grade (B)Run of Mine grade (C) Effective grade (D) Pit head grade	
19	The term Representative factor (R.F) is related with (A)Mine ventilation (B)Mine Plan(Survey) (C) Mine air sampling (D) Mine drainage	
20	Coalification had taken place in order of (A)Lignite, Peat, bituminous, anthracite (B)Peat, Lignite, , bituminous, anthracite (C) Peat, Lignite, anthracite, bituminous, (D)bituminous, Peat, anthracite, Lignite	

21	Gravimetric samplers works on the principles of (A)Thermal precipitation (B)Filtration (C) Optical (D)Impaction	
22	Burden is the distance between (A)Last row and edged line of bench (B)First row and second row (C) First row and edge line of bench (D)Depth of hole	
23	To measure the performance of blasting which factor is calculated. (A)Load factor (B)Age factor (C) Yield factor (D) Powder factor	
24	While blasting in hot strata the temperature of hole should not exceed. (A)80^0 c (B)60^0 c (C) 90^0 c (D) 70^0 c	
25	Fly rocks during open cast blasting is controlled by (A)Spraying water (B)Muffle blasting (C) Blasting short holes (D) Blasting deep holes	
26	While dealing with misfire shot, the relieving hole is drilled at a distance not less than. (A)15 m (B)20 m (C) 10m (D) 5m	
27	A Coal seam is said to be degree III if rate of emission of gas in m3/te of coal raised is more than (A)2 (B)10 (C) 15 (D) 20	
28	Reportable injury means any injury other than serious injury, which in volves the enforced absence of injured person from work for a period of (A)72 hours or more (B)2 days or more (C) 48 hours or more (D) one week	
29	Coal seams are normally found in (A)Igneous rocks (B)sedimentary rocks (C) Metamorphic rocks (D) none of the above	
30	In contiguous seams means the parting between two seam is with in (A)13m (B)15m (C) 9m (D) 14m	

31	Joining of two ropes is called (A)Pasting (B)Splicing (C) Casting (D) Rolling	
32	Explosive is stored at (A)Room (B)Bunker (C) Godown (D) Magazene	
33	DGMS comes under (A)Coal Ministry (B)Energy Ministry (C) Law Ministry (D) Labour Ministry	
34	Notice of serious accident is given in Form (A)IV B (B) I (C) IV A (D) V	
35	The most important parameter of a dust that governs its physiological effect is (A)Colour of dust (B)Speed of dust (C) Size of dust (D) Smell of dust	
36	The Oxygen concentration in under ground Mine should not be less than (A)25% (B)21% (C) 19% (D) 15%	If the oxygen level drops below 19%, it creates a hazardous environment for anyone working underground .
37	Geothermal gradient in Indian Coalfields is about (A)1°c/38m (B)10°c/38m (C) 100°c/38m (D) -1°c/38m	
38	Dust Generation may be reduced by drilling (A)With Blunt Bit (B)With high speed (C) With low speed (D) With sharp bit	A sharp bit cuts material more efficiently, while a blunt bit tends to crush and grind it, which produces significantly more fine, respirable dust.
39	Which of the following term is not used to describe a geological fault. (A)Gradient (B)throw (C) Hade (D) None of the above	
40	In surface mine, a box cut is defined as (A)The Final cut to close the mine (B)The initial cut made to open a cut (C) Any cut which look as open box (D)The cut to extend haul road	
41	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) powder factor	

42	In an open cast Coal 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 failure (D) linear failure	
43	Unit of blast induced vibration is (A)mm/s (B)Pascal (C) db (D) m/min	
44	Factor of safety of slope of an open cast mine ..... with increase in pore water pressure (A)Goes up (B)reduces (C) Remains un changed (D) Lose importance	
45	It does not contribute to coalifilation process (A)Climatic condition (B)Time (C) Depth (D) Method of working	
46	VOD is a term related to (A)Air blast (B)explosive (C) exploder (D) Tire Burst	
47	Productivity of highly mechanized Coal Mine depends on (A)% availability of equipment (B)% Utilization of equipment (C) Manpower availability (D)% availability and % Utilisation of equipment	
48	While working in an OCP over the developed workings, the parting above the gallery is proved by ..... (A)Drilling of holes (B)Plotting the RL from plan (C) Burn side boring (D) pre-splitting	
49	What is subsidence in coal mining? (A)Folding of strata (B) Breaking of rock (C) Lifting of surface strata (D) None of the above	
50	Which equipment is not used for stripping work in open cast mine. (A)Shovel (B)Dragline (C) Bucket wheel excavator (D) SDL	
51	The Raj Mahal Mine Disaster of 2016 was due to (A)Blasting (B)fire (C) Explosion of Gas (D) Strata failure	
52	AVA is used in (A)Belt conveyor (B)Vehicles used in mines (C) Crusher (D) Rest shelter	

53	New Coal Mine regulation was introduced and effective from (A)March, 2017 (B)November, 2017 (C) March, 2018 (D) November, 2018	
54	One mine should be under sole control of (A)Owner (B)Agent (C) Engineer (D) Manager	
55	Spontaneous combustion of coal is (A)Burning of Coal (B)Self heating of Coal (C) Not related to Coal (D) Domestic	In spontaneous combustion of coal, coal ignites on its own without any external flame. Coal undergoes self-heating due to a reaction with oxygen at ambient temperatures & the heat generated is not dissipated quickly enough.
56	Garland drain is (A)A water drainage (B)Drainage of spoil (C) Pot hole (D) Dam to protect drain	
57	Dozer used as (A) Loading equipment (B)Transport equipment (C) Leveling & pushing purpose (D)for crushing & screening purpose	
58	It is not related with dragline (A) Drag (B)Hoist (C) Swing (D) Crowd	
59	Thickest seam of Coal (A)Turra (B)Purewa (C) Jhingurda (D) All of the above	
60	Coal is utilized mainly for in India (A)Fuel for domestic purpose (B)For extracting Oil (C) For Power Generation (D)For farming	
61	The Moving front of mine is called (A)Cut (B)Bench (C) Face (D)Burden	
62	No person is allowed to work in a mine for more than .....days in a week. (A)4 (B) 5 (C) 6 (D) 7	
63	Women is allowed to work in mine (A)Between 7PM to 6.00 AM (B)Between 6 AM to 7.00 PM (C) Between Break time only (D)Between 10 AM to 5.00 PM	

64	Safety features in a Dumper is (A)Rear View Mirror (B)Proximity sensor (C) AVA (D) All of the above	
65	BERM is (A)Provided on the edge of haul Roads (B)Spacing between two rows of holes (C) It is feature of a machine (D)It is related with drilling	
66	You may recognize .....by its distinctive Rotten egg odour (A)Hydrogen (B)Carbon monoxide (C) Carbon dioxide (D) Hydrogen sulphide	
67	The gradient of haul road is ..... (A)1 in 12 (B) 1 in 20 (C) 1 in 16 (D) 1 in 18	
68	In open cast mine highest gradient of any road is ... (A)1 in 6 (B)1 in 10 (C) 1 in 4 (D) 1 in 8	
69	The diameter of a dumper wheel is 2.4 meter, then the height of the "BERM" will be .. (A)1.60 mtr. (B)2.00 mtr. (C) 2.40 mtr. (D) 1.8 mtr.	
70	Which of the following protects us from dust (A)Ear muff (B)Goggle (C) Mask (D) All of the above	

	Section B	
1	Who among the following is not a recipient of Bharat Ratna? (A) VinobhaBhave (B)Sardar Vallabhbhai Patel (C) Lal Bahadur Shastri (D) Dr. S Radhakrishnan	
2	Who was the first Indian to receive a nobel prize? (A) Mother Teresa (B)Hargobind Tagore (C) C.V. Raman (D) RabindranathTagore	
3	World Red Cross Day falls on (A) May 3 (B)May 8 (C) May 10 (D) May 11	
4	Which one of the following days is observed as the World Environment Day? (A) 28th February (B)4th March (C)5th June (D) 16th September	

5	International Women Day is celebrated on which of the following dates? (A)18 April (B)8 March (C) 15th May (D)27December	
6	When the world AIDS day is celebrated? (A)1st October (B)1st December (C)12 December (D)12 November	
7	Name of the first state of India which is dependent on organic farming (A) Madhya Pradesh (B)Kerala (C) Sikkim (D) Arunachal Pradesh	
8	Which of the following is a medicinal crop (A) Sugarcane (B)Aloe vera (C) Cotton (D) Mahua	
9	Which state of India touches maximum state boundaries (A) Madhya Pradesh(B)Karnataka (C) Andhra Pradesh(D) Uttar Pradesh	
10	Nepanagar is related to which of the following industry (A) Fertiliser (B)Newsprint paper (C) Sugar (D) Woolen Textile	
11	On which date, the 2018 National Mathematics Day (NMD) was observed in India recently? (A) December 21 (B)December 22 (C) December 23 (D) December 24	
12	From which sport Anup Kumar is associated with, who recently announced his retirement? (A) Cricket (B)Kabaddi (C) Tenis (D) Basket ball	
13	Which of the following country won the Kabaddi World Cup 2018? (A) Iran (B)India (C) South Korea (D) Pakistan	
14	Which of the following city is called 'Pink City'? (A) Jodhpur (B)Jaipur	

	(C) Jabalpur (D) Udaipur	
15	The hottest planet of the solar system is (A) Saturn (B)Mercury (C) Venus (D) Mars	
16	The Bogibeel bridge is constructed over..... river (A) Ganga (B)Brahmaputra (C) Godawari (D) Tapti	
17	Volleyball team consist of ..... players. (A) 6 (B)8 (C) 5 (D)7	
18	Good Governance Day is observed on... (A) 22 December (B)23 December (C) 24 December (D) 25 December	
19	Which of the following country will host Olympic games 2020? (A) Australia (B)South Africa (B) Russia (D) Japan	
20	Which of the following is a Kharif crop? (A) Wheat (B)Gram (C) Mustard (D) Rice	
21	Sequence the following events : 1.Diagnosis 2. Doctor 3. Sick 4.Treatment 5. Recovery (A) 1, 2, 3, 4, 5 (B)3, 2, 1, 4, 5 (C)2, 1, 3, 4, 5 (D)4, 5, 1, 3, 2	
22	A man's speed with the water current is 15 km/hr and the speed of the current is 2.5 km/hr. The man's speed against the current is: (A) 8.5 km/hr (B) 10 km/hr. (C) 12.5 km/hr (D) 9 km/hr	
23	A motorboat, whose speed in 15 km/hr in still water goes 30 km downstream and comes back in a total of 4 hours 30 minutes. The speed of the stream (in km/hr) is: A) 10 B)6 C) 5 D) 4	
24	An error 2% in excess is made while measuring the side of a square. What is the percentage of error in the calculated area of the square?	

	A) 4.04% B) 2.02 % C) 4% D) 2%	
25	A rectangular park 60 m long and 40 m wide has two concrete crossroads running in the middle of the park and rest of the park has been used as a lawn. The area of the lawn is 2109 sq. m. what is the width of the road? A) 5 m B) 4m C) 2 m D) 3m	
26	A towel, when bleached, lost 20% of its length and 10% of its breadth. What is the percentage decrease in area? A) 30% B)28% C) 32% D)26%	
27	If the length of a rectangle is halved and its breadth is tripled, what is the percentage change in its area? A)25 % increase B) 25% decrease C) 50% decrease D)50%increase	
28	A train is running at a speed of 40 km/hr and it crosses a post in 18 seconds. What is the length of the train? A) 190 metres B) 160 metres C)200metres D) 120metres	
29	A train has a length of 150150 metres. It is passing a man who is moving at 22 km/hr in the same direction of the train, in 3 seconds. Find out the speed of the train. A) 182 km/hr B)180 km/hr C) 152 km/hr D) 169 km/hr	
30	The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25% find the value of x A) 15 B) 25 C) 18 D) 16	