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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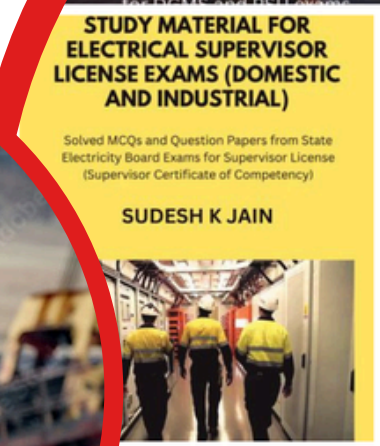
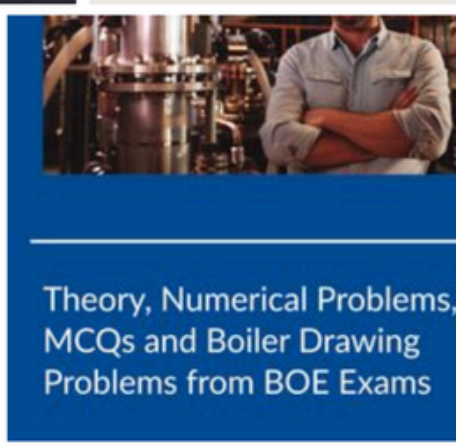
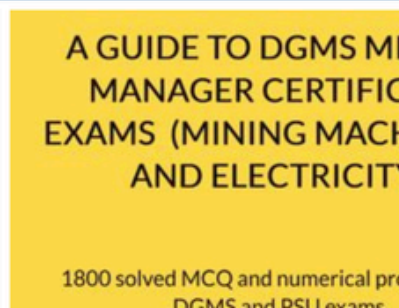








Question Booklet Series :– A Question Booklet No. :–
प्रश्न पुस्तिका श्रृंखला :– प्रश्न पुस्तिका संख्या :–

DO NOT OPEN THIS BOOKLET UNTIL TOLD TO DO SO
इस पुस्तिका को आदेश मिलने पर ही खोलें

JUNIOR OVERMAN

Time Allowed : 2 Hours **Total No. of Questions : 100**

Roll No. / अनुक्रमांक संख्या : ..... **OMR Sheet No. पत्रिका संख्या :**.....

Name of the Candidate / अभ्यर्थी का नाम : .....

....

Candidate's Signature / अभ्यर्थी के हस्ताक्षर **Invigilator's Signature / कक्ष निरीक्षक के हस्ताक्षर**

READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE WRITING ANYTHING ON THIS BOOKLET

1.	Before commencing to answer, check that the Question Booklet has all the 100 questions **(PART–A : 25 Questions on General Awareness and PART–B : 75 questions from concerned Discipline/Technical Aptitude** and there is no misprinting, overprinting and/or any other shortcoming in it. If there is any shortcoming, intimate the same to your room invigilator and have it changed. **No complaint in this regard shall be entertained at any later stage.**
2.	**Use Blue/Black Ball Point Pen** for all your work on the OMR Answer Sheet. The ovals on the OMR Answer Sheet are to be completely filled by **Blue/Black Ball Point Pen only. ANSWERS ONCE GIVEN CAN NOT BE CHANGED.**
3.	This is an objective type test in which each objective question is followed by four responses serialled (1) to (4). Your task is to choose the correct/best response and mark your response in the OMR Answer Sheet and NOT in the Question Booklet.
4.	**All questions are compulsory.**
5.	**DO NOT scribble or do rough work or make any stray marks on the Answer Sheet. DO NOT wrinkle or fold or staple it.**
6.	Answer sheet will be processed by Electronic means. Hence, invalidation of answer sheet resulting due to folding or putting stray marks on it or any damage to the answer sheet as well as incomplete/incorrect filling of the answer sheet will be the sole responsibility of the candidate.
7.	Rough Work is to be done in any blank space in the booklet. No other paper will be allowed/provided.
8.	Use of Calculators, Slide rules, Mobiles, calculator watches or any such devices and any other study/reference material is NOT allowed inside the examination hall.
9.	Return OMR Answer Sheet to the invigilator on completion of the test. Do not take this OMR Answer Sheet outside the examination room. Doing so is a punishable offence. You can retain the Question Paper after the test is over.
10.	Take care that you mark only one answer for each question. If more than one answer is given by you for any question, the same will not be evaluated. **Cutting/overwriting the answers are not allowed. Further question paper is bilingual (Hindi/English). In case of any variation in Hindi version, English version will be taken as final for evaluation purposes.**

FOR INSTRUCTIONS IN HINDI SEE BACK COVER PAGE.

PART–A (GENERAL AWARENESS)

1. Match the following (List–I and List–II):

List–I (Year)	List–II (Nobel Prize in Literature Awardee)
A. 2016	1. Patrick Modiano
B. 2015	2. Alice Munro
C. 2014	3. Bob Dylan
D. 2013	4. Svetiana Alexievich

(1) A3, B2, C4, D1 (2) A3, B4, C1, D2
(3) A3, B1, C2, D4 (4) A3, B2, C1, D4

2. As per Indus Water treaty, control over which three rivers were given to Pakistan:

(1) Ravi, Beas and Sutlej
(2) Ravi, Jhelum and Sutlej
(3) Indus, Jhelum & Sutlej
(4) Indus, Jhelum & Chenab

3. Who is the deputy chairman of Rajya Sabha at present?

(1) Satya Narain Jatiya
(2) Tiruchi Siva
(3) Prof. P.J. Kurien
(4) None of these

4. 'Aryaman' and 'Atulya' were recently commissioned in Kochi, Kerala. These are:

(1) Atomic Research Centre
(2) Nuclear Power Station
(3) Indian Coast Guard Ships
(4) Largest Solar Power station

5. Which country's team has lost 2016 Women's Twenty-20 Asia Cup Cricket Tournament:

(1) Pakistan (2) India
(3) Bangladesh (4) Nepal

6. PAVA shells stands for?

(1) Pellet Attack Vamide Amide
(2) Parrallel attack Via Amide
(3) Priority Acid Via Amide
(4) Pelargonic Acid Vanillyl Amide

7. On the basis of area which one of the following is correct descending order?

(1) Asia, North America, Africa, South America
(2) Africa, Asia, North America, South America
(3) Asia, Africa, North America, South America
(4) Asia, Africa, South America, North America

8. Article 243 B(1) of the constitution provides for constitution of Panchayat in every state. The level of Panchayats referred under this is:

(1) Village and District level
(2) Village, intermediate and District Level
(3) Village level only
(4) District level only

9. Match the following (Item–I to Item–II):

ITEM–I	ITEM–II
A. Siachin Glacier	1. Sikkim
B. Rohtang Pass	2. Karakoram Range
C. Nathu la	3. Pakistan
D. Khyber Pass	4. Himachal Pradesh

(1) A4, B2, C3, D1
(2) A4, B2, C1, D3
(3) A3, B2, C4, D1
(4) A2, B4, C1, D3

10. A stick immersed in water appears bent due to the phenomenon of:

(1) Reflection of light
(2) Diffraction of light
(3) Refraction of light
(4) Dispersion of light

11. In which of the following groups of hemispheres is India located?

(1) Northern & Eastern Hemisphere
(2) Eastern & western Hemisphere
(3) Southern & Northern Hemisphere
(4) Eastern & Southern Hemisphere

12. The Governor of a state is appointed by:

(1) Chief Minister of the State
(2) Chief Justice of Supreme Court
(3) President of India
(4) Speaker of the Lok Sabha

13. The earth rotates on its axis from:

(1) West to East (2) East to West
(3) South to North (4) North to South

14. Name the following who is not associated with cricket:

(1) Sachin Tendulkar
(2) Sunil Gavaskar
(3) Sania Mirza
(4) Kapil Dev

15. Newton's 1st law of motion is also known as:

(1) Law of acceleration (2) Law of speed
(3) Law of gravity (4) Law of inertia

16. The Khajuraho temples were built by:

(1) Chalukyas (2) Chauhans
(3) Chandellas (4) None of these

17. The first battle of Tarain was fought between:

(1) Mohammad Ghori and Prithvi Raj Chauhan
(2) Akbar and Hemu
(3) Mahmud of Ghazni and Prithvi Raj Chauhan
(4) Akbar and Rana Pratap

18. Match List –I (Phenomena) with List –II (dates):

LIST –I (Phenomena)	LIST –II (Dates)
A. Spring Equinox	1. June 21
B. Autumn Equinox	2. September 23
C. Winter Solstice	3. December 22
D. Summer Solstice	4. March 21

(1) A2, B3, C4, D1
(2) A4, B2, C3, D1
(3) A2, B1, C4, D3
(4) A4, B1, C2, D3

19. The President of India shall hold office for a term of:

(1) Five years from the date on which he is declared elected
(2) Five years from the date on which he takes oath of his office
(3) Five years from the date on which he enters upon his office
(4) Five years from the date on which he addresses the Lok Sabha

20. "Swachh Indhan, Behtar Jeevan" is the tagline for which scheme of union government:

(1) Pradhan Mantri Awas Yojana
(2) Pradhan Mantri Ujjwala Yojana
(3) The Ujala Scheme
(4) Swachh Bharat Abhiyan

21. Which of the following may be used by the Reserve Bank of India as a tool to draining out excess money from the system:

(1) Increasing Cash Reserve Ratio
(2) Increasing Reverse Repo rate
(3) Reduction in Repo rate
(4) Both (1) & (2)

22. For anyone to become a member of Rajya Sabha, he/she must be at least:

(1) 35 years of age
(2) 30 years of age
(3) of the age what is minimum age required for Vice President of India
(4) 25 years of age

23. The cricket cup played between the winner of the Ranji Trophy and a team representing rest of India:

(1) Vijay Hazare Trophy (2) Duleep Trophy
(3) Deodhar Trophy (4) Irani Trophy

24. Babar defeated Rana Sanga in the battle of:

(1) Panipat (2) Khanva
(3) Buxar (4) Chittor

25. How many bones are there in human body?

(1) 201 (2) 203
(3) 210 (4) 206

PART–B (PROFESSIONAL APTITUDE)

26. As per provision of CMR 1957 danger zone is an area falling in a radius of

(1) 100 m (2) 150 m
(3) 200 m (4) 300 m

27. In Cross bar support system, the side clamps are fitted in holes of coal pillar side up to a minimum depth of

(1) 10cm (2) 20 cm
(3) 30cm (4) 50cm

28. Installation of booster fan in one district

(1) Increases the flow of air in other district
(2) Reduces the flow of air in other district
(3) Reduces the resistance of other district
(4) None of the above

Booster fan in one district creates a suction in that area. This suction causes more air to be drawn into that district. The increased flow in the booster district "steals" air from the other parallel districts, thereby reducing the flow of air in the other districts.

29. Under which Regulation of CMR 1957, provision of SSR is stipulated

(1) 108 (2) 104
(3) 102 (4) 106

30. Pit slope is the angle made by the imaginary line joining the –

(1) Top most toe of the bench to the bottom most toe of the bench
(2) Top most crest of the bench to bottom most toe of the bench
(3) Top most crest of the bench to bottom most crest of the
(4) Average of the all bench angle

31. The handling figures of the Mine for the year 2015-16 are as below.

The OB handling = 5,00,000 Tonnes, coal production = 2,00,000 Tonnes and densities of OB and Ore are 2.5 and 1.5 respectively. Find the stripping ratio for the year 2014-15.

(1) 1: 2.5 (2) 1 : 1.5
(3) 1 : 2 (4) 1: 1

32. What should be maximum stipulated distance between runway switch & stop block

(1) Length of a set of tub + 10 m
(2) Length of a set of tub + 5 m
(3) Length of a set of tub + 6 m
(4) Length of a set of tub + 2 m

33. As per provision of CMR 1957, who shall be responsible for determining the VEQ

(1) Safety officer
(2) Overman
(3) Ventilation officer
(4) Colliery Manager

34. First-Aid Room shall have floor space not less than_.

(1) 5 Sq. Mtr
(2) 10 Sq. Mtr
(3) 50 Sq. Mtr
(4) 15 Sq. Mtr

35. For overburden removal with shovel dumper combination the optimum size of the dumper depends on

(1) The distance of the haul
(2) Size of the shovel
(3) Size of the shovel and the distance of haul
(4) Tonnage to be handled

36. For better safety, the optimum gradient of a haul road is

(1) 1 degree to 3 degree
(2) 15 degree to 9 degree
(3) 5 degree to 9 degree
(4) 15 degree to 20 degree

37. The maximum voltage of electrical signals in underground mines having supported on insulator is

(1) 30 V (2) 60 V
(3) 120 V (4) 220 V

38. In any working below ground there should be provided at least two shafts or incline which should be away from each other by a minimum distance

(1) 12.5 mtrs
(2) 13.5 mtrs
(3) 14.5 mtrs
(4) 15.4 mtrs

39. Who will set permanent or temporary speed limits, for any area of the Mine or any vehicle or class of vehicle?

(1) Mines Manager
(2) Sr. Official.
(3) DGMS.
(4) Mines Foreman.

40. Before starting depillaring operation permission have to be taken from

(1) DGMS
(2) State District Authority
(3) Chairman CIL
(4) Ministry of Environment, Govt. of India

41. Permissible limit of respirable concentration of coal dust should not be more than

(1) 6 mg/m3
(2) 10mg/m3
(3) 15 mg/m3
(4) 3 mg/m3

DGMS) in India and the International Labour Organization (ILO) have previously recommended a permissible limit of 3 mg/m³ for respirable dust in coal mines when the free silica content is below 5%.

42. Blasting Gallery method is not suitable for working seam thickness

(1) Less than 7 m
(2) More than 7m
(3) Up to 11m
(4) More than 11m

43. Notice of accident causing death or serious bodily injury in connection with mining operations, in Form IV'A' shall be sent to Regional Inspector within hours.

(1) 24 (2) 48
(3) 72 (4) 12

44. What should be the minimum anchorage strength of root bolts after half an hour and after two hours

(1) 2 Te & 4 Te
(2) 1 Te & 3 Te
(3) 3 Te & 5 Te
(4) 5 Te & 10 Te

45. Fires in live electrical equipments is classified as

(1) Class B fire (2) Class C fire
(3) Class D fire (4) Class E fire

46. Geothermal gradient in Indian coal fields is about

(1) 1°C / 20m (2) 1°C / 92m
(3) 1°C / 38m (4) 1°C / 72m

47. A board and pillar panel will be developed with square pillars of size 25m and an extraction ratio of 30%. The width of the gallery in m will be

(1) 4.2 (2) 4.6
(3) 4.8 (4) 26.2

48. According to CMR 1957, if the width of the gallery is 3.6 m and depth from surface is 75 m then what will be the pillar size

(1) 15 m (2) 18 m
(3) 13.5 m (4) 16.5 m

49. As per CMR 1957, the breadth of the foot path in the quarries shall not be less than

(1) 0.5 m
(2) 0.75 m
(3) 1 m
(4) 0.9 m

50. Which of the following term is not related to opencast mining?

(1) Box cut
(2) High wall
(3) Crest
(4) Winze

51. In case of an Open Cast mine, if the pit wall is too steep to allow suitable bends the layout of haul road geometry selected should be

(1) Switch back
(2) Spiral
(3) Zigzag
(4) None of these

52. Support of a slip or fault plan on both sides are done because

(1) It indicates the weaker section of the area
(2) It is a weaker zone of the mine
(3) A slip or fault plan is the line of fracture of strata & very difficult to hold it
(4) None of the above

53. Coal is left with the shale in the roof in underground working because of

(1) Shale is weak in nature
(2) It has weathering effect
(3) It reacts with coaly surface
(4) It has great affinity to absorb moisture and get departed from immediate roof

54. Which one of the following composition of methane in air is most explosive in nature?

(1) 8.5% by volume
(2) 9.5%by volume
(3) 10.5% by volume
(4) 11.5%by volume

A mixture is most explosive when it contains the exact proportion of oxygen required for the complete combustion of all the methane present. This point is known as the **stoichiometric concentration**. At approximately 9.5% methane, there is a precise balance of oxygen for complete combustion.

55. The bench height is 6m, depth of the hole is 6.6 m (includes sub grade drilling), spacing is 4 m, burden is 5 m, the density of the rock is 2, and explosive used is 24kg. Find the powder factor.

(1) 12
(2) 24
(3) 10
(4) 11

56. As per mine rules 1955 the first aid room must have a floor area of not less than

(1) 10 square meters
(2) 5 square meters
(3) 8 square meters
(4) 7 square meters

57. As per mine rules 1955 how much quantity of drinking water must be provided to the mine employee

(1) 1.5 liter
(2) 3 liter
(3) 4 liter
(4) 2 liter

58. In a mine a big roof fall has taken place in main intake airway. The fan drifts water gauge

(1) Will remain unaffected
(2) Will decrease
(3) Will register an increase
(4) Will increase temporarily only when fall takes place

If the airflow suddenly drops because a fall is blocking the airway, the fan's pressure, and therefore the water gauge reading, will typically rise to reflect this increased resistance ($P \propto R$).

59. The explosives shall be transported to the site of blasting for commencement of charging of the holes should not be more than

(1) 1 hour
(2) 45 min.
(3) 30 min
(4) 1.5 hour

60. Provision regarding withdrawal of supports is stipulated in Coal Mine Regulation number

(1) 111
(2) 110
(3) 109
(4) 112

61. P5 explosives are used for

(1) Open cast blasting
(2) Over burden blasting
(3) Solid blasting
(4) Pre-cut blasting

62. Which of the following statements is/ are true?

I. Parking brake is to be used when the dumper is in motion.
II. Parking brake is to be tested with dumper is in full load
III. Parking brake is to be tested with dumper is in empty position
IV. Parking brake is to be tested at maximum gradient, permitted for at least 10 minutes.

(1) IV only
(2) II only
(3) II, IV
(4) III only

63. If the mine where 1600 persons are ordinarily employed, the number of Workmen Inspector required as per as per Rule 29 Q of Mines Rules 1955.

(1) 2
(2) 3
(3) 4
(4) 5

64. Side Discharge Loader (SDL) is a

(1) Crawler mounted machine
(2) Tyre mounted machine
(3) Rail mounted machine
(4) Both (1) & (2)

65. In solid blasting what is the maximum charge per hole as per CMR 1957.

(1) 365 gm
(2) 465 gm
(3) 265 gm
(4) 565 gm

66. In open cast mines what is the maximum number of shots to be fired by shot firer with multi shot exploder

(1) 100
(2) 120
(3) 140
(4) 150

67. When thirty or more persons are employed in underground mine or district of 2nd and 3rd degree, what number of shots shall be fired by the shot firer having only shot firer certificate by single shot exploder

(1) 20 (2) 25
(3) 30 (4) 40

68. The camp lamp used by the miners is

(1) Intrinsically safe
(2) Flame proof
(3) Neither intrinsically safe nor flame proof
(4) Capable to produce spark

Modern miner's cap lamps are **intrinsically safe**. This means the lamp is engineered to operate with such low electrical and thermal energy that it cannot ignite a flammable atmosphere (like methane gas), even under fault conditions like a short circuit

69. Notice of Medical examination under 29D of Mines Rules 1955 shall be given in Form

(1) Form 'M' (2) Form 'N'
(3) Form 'Q' (4) Form 'R'

70. As per DGMS Circular, find the minimum width of the bench with the following data-

The Height of the bench is 7 m, The boom reach of the machine is 6 m, the tipper plying on the bench, where tipper width is 2.5 m and the widest machine Hitachi Ex800 working on the bench, where the EX800 width is 5.5 m.

(1) 6 m (2) 7 m
(3) 7.5 m (4) 5.5 m

71. The distance of location of heavy type of stone-dust booster from farthest face is

(1) 365 m (2) 265 m
(3) 465 m (4) 565 m

72. Why different types of explosives are not charged in the same shot hole

(1) Chances of misfire
(2) Chances of explosion
(3) Less output per round of blasting
(4) Cost of blasting will be maximum

73. The drill holes which are driven vertically and make the sides of the excavation are described as:

(1) Easers
(2) Simpers
(3) Dressers
(4) Hole directors.

74. The purpose of wire gauge in flame safety lamp is

(1) To disperse the combustion gases uniformly
(2) To prevent the passage of CH4 from outside to the inside of the lamp
(3) To prevent the passage of flame from inside to the outside of the lamp
(4) For proper circulation of air current

In a coal mine, the air can contain flammable gases like methane . An open flame from a lamp would ignite these gases. Sir Humphry Davy's invention used a cylinder of fine wire gauze to enclose the lamp's flame .
The wire gauze acts as a barrier that allows air and light to pass through but cools the hot combustion gases . This prevents the flame from escaping and igniting any flammable gas in the surrounding mine atmosphere.

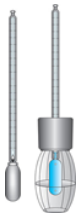
75. The main purpose of Jazz rail in underground haulage track is

(1) To avoid over speeding
(2) To maintain good alignment of track
(3) To avoid derailment of tubs
(4) To provide smooth running of tubs

76. Kata thermometer is used to know

(1) Dry bulb temperature
(2) Wet bulb temperature
(3) Heat convection
(4) Cooling time

A Kata thermometer is a specialized instrument designed to measure the cooling power of the environment, not just its static temperature. It helps assess human comfort by simulating how the air cools the body.



77. For employees engaged in HEMM operation/driving jobs, eye refraction test must be conducted at the interval of-

(1) 1 year (2) 2years
(3) 3 years (4) 5years

78. Which of the following is most difficult in opening up opencast mines?

(1) Land area acquisition and rehabilitation
(2) Recruitment of manpower
(3) Green belt vegetation
(4) Selection of customer

79. Fire damp is largely made up of

(1) CO2 (2) CH4
(3) N2 (4) CO

Fire damp is the name given to a flammable gas commonly found in coal mines. Its principal and most dangerous component is methane (CH_4).

80. In open cast mine what standard of lighting is required for the workplace of HEMM

(1) 5 Lux (2) 3 Lux
(3) 2 Lux (4) 4 Lux

81. In degree II gassy seam the rate of gas emission is

(1) Less than 1 cu.m/ton of coal produced
(2) More than 1cu.m but less than 5cu.m
(3) More than 1 cu.m but less than 10cu.m
(4) More than 10 cu.m

82. Mechanized opencast mining in India is economically feasible at present if the coal and overburden ratio is approximately up to

(1) 1 in 2
(2) 1 in 4
(3) 1 in 8
(4) 1 in 10

83. At pit bottom of Indian mines standard of lighting is

(1) 1.25 lumen/sq. feet
(2) 3 lumen/sq. feet
(3) 2 lumen/ sq. feet
(4) 0.5 lumen/sq. feet

84. Goaf in relation to the underground working means

(1) Coal is about to be extracted
(2) People has lawful access
(3) Coal has been extracted but still a working place
(4) Coal has been extracted but now not a working place

85. Emulsion explosive is mixture of

(1) Ammonium nitrate, TNT, NG
(2) Ammonium nitrate, water, hollow micro balloons
(3) Ammonium nitrate, TNT, guar gum
(4) Ammonium nitrate, NG, water

86. The minimum size of barrier in between two panels is

(1) Equal to width of gallery size
(2) Equal to dimension of panel
(3) Equal to pillar size
(4) Equal to face dimension

87. Which of the following combination of SDL base mining is expected to give best production an productivity of SDL?

(1) 3 level district
(2) 4 level district
(3) Level district
(4) 6 level district

88. Stone dust barriers are installed in underground

(1) To prevent imitation of firedamp explosion
(2) To prevent the imitation of coal dust explosion
(3) To act as the storage of stone dust
(4) None of the above

89. As per DGMS circular 7/2002, who out of the followin shall be responsible to assess the requirement support in underground?

(1) Overman
(2) Mining sirdar
(3) Shotfirer
(4) Colliery manager

90. Up to what distance from freshly exposed roof maximum supports are required

(1) 15 m
(2) 20 m
(3) 10 m
(4) 25 m

91. The clearance between walls of blast hole an explosive cartridge should be kept at least

(1) 0.5 cm
(2) 0.3 cm
(3) 0.2 cm
(4) 0.1 cm

92. The earliest indication of the spontaneous heating of coal can be given by

(1) Make of CO_2
(2) Sweating of strata
(3) Temperature rise
(4) None of the above

In mining, "sweating of strata" is recognized as one of the earliest visual and detectable signs of the spontaneous heating of coal. As coal begins to oxidize and heat up internally at low temperatures, the chemical reactions produce water vapour as a byproduct. This warm, moist air rises and comes into contact with the relatively cooler surfaces of the underground rock strata. The moisture condenses on these cooler surfaces, creating a "**sweating**" effect.

93. The grade which is available from a property after actual mining is-

(1) Computed grade
(2) Run of mine grade
(3) Effective grade
(4) Pit head grade.

94. Run-away switch is used in connection with

(1) Direct Rope Haulage
(2) Trail Rope Haulage
(3) Endless Haulage
(4) Gravity Haulage

95. SSR of any underground mine shall be approved by

(1) Colliery Manager
(2) Safety Officer
(3) Director (Tech.)
(4) Director of Mines Safety

96. The term Representation Factor (RF) is related with

(1) Mine Ventilation
(2) Mine plan
(3) Mine Air Sampling
(4) Mine drainage

97. Coalification had taken place in order of

(1) Lignite, peat, bituminous, anthracite
(2) Peat, Lignite, bituminous, anthracite
(3) Peat, lignite, anthracite, bituminous
(4) Bituminous, peat, anthracite, lignite

98. Gravimetric dust samplers works on the principles of

(1) Thermal precipitation
(2) Filtration
(3) Optical
(4) Impaction

99. Which of the following materials are used to hold tubs on gradient

(1) Tub rerailer (2) Back stay
(3) Tub rerailer (4) Prags

100. Attendance of open cast work person is marked in

(1) Form C
(2) Form D
(3) Form E
(4) Form G

BCCL 30/04/2017							
POST - JUNIOR OVERMAN							
SERIES - A							
Q.NO.	ANS	Q.NO.	ANS	Q.NO.	ANS	Q.NO.	ANS
1	2	26	4	51	2	76	4
2	4	27	4	52	3	77	1
3	3	28	2	53	4	78	1
4	3	29	1	54	2	79	2
5	1	30	2	55	3	80	1
6	4	31	4	56	1	81	3
7	3	32	1	57	4	82	3
8	2	33	3	58	3	83	2
9	4	34	2	59	3	84	4
10	3	35	3	60	2	85	2
11	1	36	3	61	3	86	3
12	3	37	1	62	3	87	3
13	1	38	2	63	2	88	2
14	3	39	1	64	1	89	2
15	4	40	1	65	4	90	3
16	3	41	4	66	2	91	2
17	1	42	1	67	4	92	2
18	2	43	1	68	2	93	3
19	3	44	3	69	1	94	1
20	2	45	4	70	3	95	4
21	4	46	3	71	1	96	2
22	2	47	3	72	1	97	2
23	4	48	4	73	3	98	2
24	2	49	3	74	3	99	4
25	4	50	4	75	1	100	2