Pennsylvania Mining Law
Questions and Answers

Mining Methods

1. Pillars between auger holes shall be

    A. 4 feet wide
    B. 6 feet wide
    C. 10 feet wide
    D. wide enough to support the overburden adequately

2. Safety zones must extend at least _____ from the high water mark.

    A. 50 feet
    B. 100 feet
    C. 200 feet
    D. no such regulation exists.

3. Can permission be granted to mine in a safety zone?

    A. Yes
    B. No

4. Regarding mining in a safety zone, no permission will be granted if there is less than _____ feet of rock cover.

    A. 25
    B. 35
    C. 50
    D. mining is not permitted in a safety zone

5. Before any mining is done in a safety zone, the mine foreman must convey that information verbally to each employee.

    A. True
    B. False
    C. mining is not permitted in a safety zone

6. How many E.M.T.s are required to be employed at any mine?

A. one
B. one per shift
C. one per working unit
D. in sufficient numbers to insure that no miner shall work in a mine location that cannot be reached in a reasonable time

7. When planning the layout of a new mine, what governs the widths of rooms and pillars?

A. the weight of overburden to be supported
B. the character of the immediate roof
C. the character of the bottom
D. all of the above

8. On a mine map, every point which is the same elevation can be drawn in as a _____.

A. level line
B. boundary line
C. transit line
D. contour line

9. A fracture of strata along which there has been movement of the two sides relative to one another is called _____.

A. a fault
B. a slip
C. a creep
D. none of the above

10. The part of the coal that appears at or near the surface is called _____.

A. the slope
B. the face
C. the outcrop
D. strip mine gravy

11. In longwall mining, the entry through which the coal will be moved toward the outside is called _____.

A. the beltline
B. the escapeway
C. the headgate
D. the tailgate

12. What is the weight of one cubic foot of water?

A. 7.5 lbs.
B. 8.34 lbs.
C. 56.7 lbs.
D. 62.5 lbs.

13. In pumping calculations, the maximum static lift is assumed to range between _____.

A. 5 to 10 feet
B. 10 to 12 feet
C. 10 to 20 feet
D. 12 to 20 feet

14. Acid mine water is neutralized through the use of lime.

A. True
B. False

15. What is the practical height to which water can be lifted in a siphon at sea level?

A. 10 feet
B. 14 feet
C. 20 feet
D. 22 feet

16. The resistance of water to flow in a pipe is called _____.

A. an orifice
B. friction head
C. rubbing surface
D. a plugged line

17. The prominent type of pump used in mine drainage is a _____ pump.

A. reciprocating
B. centrifugal
C. axial
D. piston

18. The quantity of air reaching the last open crosscut in any pair or set of entries shall not be less than _____ cubic feet.

A. 3000
B. 3500
C. 6000
D. 9000

19. Where belt conveyors are installed, main stoppings and regulators shall be arranged to reduce the air flow in conveyor entries to _____.

A. 3000 cfm
B. 3500 cfm
C. 6000 cfm
D. a minimum for effective positive ventilation

20. Not more than _____ persons shall be permitted to work in one split of air.

A. 20
B. 50
C. 70
D. 100

21. The distance driven to establish ventilation connections between entries and rooms shall not exceed _____ feet.

A. 100
B. 125
C. 175
D. 200

22. The space between the rib and the line brattice shall be _____.

A. one fourth the size of the entry area
B. one third the size of the entry area
C. large enough to permit sufficient air flow
D. small enough to restrict air flow

23. The plan of ventilation of abandoned and unused parts of the mine shall be approved by the district mine inspector.

A. True
B. False

24. Ventilation fans are required for mines that extend more than 300 feet underground.

A. True
B. False

25. Fan charts must be kept on file for at least _____.

A. one month
B. six months
C. nine months
D. one year

26. All mine fans shall be provided with pressure recording charts or water gauges.

A. True
B. False

27. The ventilating pressure is the pressure which must be exerted upon air current to overcome the mine resistance.

A. True
B. False

28. If the fan speed remains constant, added obstructions in the airway would _____.

A. increase quantity at the fan
B. decrease quantity at the fan
C. have no effect on quantity
D. none of the above

29. If the fan speed remains constant, short circuits in the airway would _____.

A. increase quantity at the fan
B. decrease quantity at the fan
C. have no effect on quantity
D. none of the above

30. If the ventilating pressure remains the same, decreased mine resistance would increase the quantity of air at the fan.

A. True
B. False

31. What common types of mine fans are used?

A. centrifugal and reciprocal
B. axial flow and variable speed
C. reciprocal and axial flow
D. centrifugal and axial flow

32. Where multiple fans are used, neutral areas are permitted.

A. True
B. False

33. _____ shall be established to prevent accumulations of gas in pillared out areas.

A. Positive ventilation
B. Bleeder systems
C. Water seals
D. Negative ventilation

34. If face ventilation becomes inadequate due to damaged brattice, repairs shall be made _____.

A. immediately
B. within 20 minutes
C. within 30 minutes
D. when the mining sequence is completed

35. Ventilation current is controlled by _____.

A. stoppings, doors, overcasts, undercasts
B. regulators, line brattice, auxiliary fans
C. both A and B
D. neither A nor B

36. If air passing through an auxiliary fan or tubing contains an excess of 1% CH_4, the power to that auxiliary fan shall be removed.

A. True
B. False

37. Undercasts are preferred to overcasts.

A. True
B. False

38. A partial variable obstruction in an airway is _____.

A. a bad stopping
B. a back check
C. a regulator
D. a belt check

39. The doors of an airlock shall be placed _____.

A. 50 feet apart
B. 100 feet apart
C. 200 feet apart
D. a sufficient distance to accommodate a full trip of cars

40. All doors installed shall swing to close _____.

A. against the direction of the air flow
B. in the direction of the air flow
C. at the direction of the mine foreman
D. at the discretion of the district mine inspector

41. All workings which are abandoned should be sealed or ventilated.

A. True
B. False

42. A mine shall be continuously ventilated throughout its operating life.

A. True
B. False

43. What is the minimum number of miners employed in a mine before ample ventilation is required?

A. 1
B. 5
C. 10
D. 70

44. The speed of the ventilating current is called the _____.

A. quality
B. quantity
C. velocity
D. none of the above

45. The mine resistance varies indirectly as the square of the velocity.

A. True
B. False

46. If a volume of air remains the same, as an area is decreased, the velocity _____.

A. decreases
B. increases
C. remains the same

47. In the winter months, the air entering the mine is able to pick up moisture from the mine environment.

A. True
B. False

48. In the summer months, the air entering the mine is able to pick up moisture from the mine environment.

A. True
B. False

49. Air splitting reduces the possibility that an explosion will propagate from one section to another.

A. True
B. False

50. The distance of an airway that is measured around its cross sectional area is called _____.

A. the area
B. the rubbing surface
C. the resistance
D. the perimeter

51. The resistance of one square foot of rubbing surface to an air current with a velocity of one foot per minute is called the co-efficient of friction.

A. True
B. False

52. Rectifiers may be ventilated on intake air.

A. True
B. False

53. Carbon dioxide and nitrogen in an oxygen deficient atmosphere is called _____.

A. black damp
B. white damp
C. stink damp
D. after damp

54. Carbon monoxide is also called _____.

A. black damp
B. white damp
C. stink damp
D. fire damp

55. Methane is most likely found near the roof.

A. True
B. False

56. Carbon dioxide is most likely found near the roof.

A. True
B. False

57. A source of hydrogen in the mine atmosphere is _____.

A. charging batteries
B. mine fires explosions
C. explosions
D. all of the above

58. Once two more gases mix uniformly, they will not separate or come apart.

A. True
B. False

59. The percentage of the earth's atmosphere that is nitrogen is _____.

A. 20.94%
B. 78.09%
C. 5.32%
D. 5.55%

60. When the oxygen level falls below _____%, it is considered to be dangerous.

A. 19.5
B. 17
C. 16.5
D. 16