Pennsylvania Mining Law

Questions and Answers

241. The purpose of a regulator is to control the distribution of air by regulating resistance of the flow of air in that split.

A. true
B. false

242. As a regulator is closed, the quantity of air in that split increases.

A. true
B. false

243. Regulators are usually placed in the intake headings of a mine.

A. true
B. false

244. When installing ventilation seals, an air sampling tube should be placed _____.

A. in the seal with the lowest elevation
B. in the seal with the highest elevation
C. in any or all seals
D. no air sampling point is required

245. When installing ventilation seals, a water trap shall be installed:

A. in the seal with the lowest elevation
B. in the seal with the highest elevation
C. in any or all seals
D. no water trap is required

246. When installing ventilation seals, the ventilation borehole shall be drilled:

A. within the sealed area at the highest coal elevation
B. within the sealed area at the lowest coal elevation
C. anywhere within the sealed area
D. ventilation boreholes are never required

247. Ample ventilation in a coal mine is required when the mine employs _____.

A. 1 person
B. 2 persons
C. 5 persons
D. 8 persons

248. Intake air is permitted to pass through abandoned areas before it reaches the working face because the working area is regularly inspected.

A. true
B. false

249. Ventilation can be shifted from idle areas to working sections on different shifts.

A. true
B. false

250. Ventilation changes in a mine should be made _____.

A. between shifts
B. at lunch time
C. when the mine is idle
D. changes can be made anytime

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

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

252. Mine resistance must be overcome to pass a ventilating current through a mine.

A. true
B. false

253. Mine resistance varies inversely as the square of the velocity.

A. true
B. false

254. Constricted airways _____.

A. reduce resistance
B. increase resistance
C. has no effect on resistance
D. none of the above

255. When airways are constricted and volume remains constant, velocity _____.

A. increases
B. decreases
C. has no effect on velocity
D. none of the above

256. What effect do constricted airways have upon velocity when the ventilating pressure remains constant?

A. velocity increases
B. velocity decreases
C. velocity remains the same
D. none of the above

257. If the intake air in a mine is cold, the mine has a tendency to _____.

A. become damp
B. dry out
C. become foggy
D. always remain the same

258. The difference in air pressure from intake to return causes air circulation.

A. true
B. false

259. The surface of the airway in contact with the air current is called the _____.

A. area
B. velocity
C. rubbing surface
D. cross section

260. The cross sectional area of an airway is measured as _____.

A. area
B. velocity
C. cubic feet
D. water gauge

261. Mine resistance is determined by the area, perimeter, length of the airway, velocity and the coefficient of friction.

A. true
B. false

262. The rubbing surface of an airway can be calculated by measuring:

A. length times width
B. length times area
C. area times velocity
D. length times perimeter

263. Quantity of air can be determined by measuring:

A. height times width
B. width times velocity
C. velocity times height
D. area times velocity

264: Underground motor generator sets shall be housed in a fireproof building and ventilated by a common split of air.

A. true
B. false

265. Section load centers must be on a separate split of air.

A. true
B. false

266. Rectifiers may be ventilated on section air.

A. true
B. false

274. Human life would cease to exist if the oxygen level is _____.

A. 17%
B. 15%
C. 12%
D. 5%

276. When an explosion occurs underground, the immediate atmosphere:

A. has oxygen depleted and CH_4 formed
B. has oxygen depleted and CO formed
C. has oxygen depleted and CO_2 formed
D. has oxygen depleted and H_2S formed

278. All electrical meters are caused to operate by the current that flows through a coil movement.

A. true
B. false

279. How many resistors are part of a wheatstone bridge?

A. 1
B. 2
C. 3
D. 4

280. The mine's electrical map shall be brought up to date at intervals not to exceed _____.

A. 3 months
B. 6 months
C. 9 months
D. 1 year

281. Electrical distribution centers are used to:

A. distribute utilization voltage to face equipment
B. distribute high voltage to other areas of the mine
C. distribute trolley power to various parts of the mine
D. all of the above

282. Cross bonds shall be installed how far apart on main track haulage roads?

A. 100 feet
B. 200 feet
C. 300 feet
D. 500 feet

283. The minimum scale of a mine electrical map shall be no less than:

A. 1 inch to 100 feet
B. 1 inch to 200 feet
C. 1 inch to 500 feet
D. no minimum requirements exist

284. When splicing a cable, the insulation shall be:

A. installed over the joints in the cable
B. at least as thick as the original cable insulation
C. of an approved material
D. all of the above

285. All joints in conductors of cables shall be _____ and _____ efficient.

A. mechanically and uniformly
B. mechanically and electrically
C. electrically and uniformly
D. none of the above

286. The maximum distance between circuit breakers or trolley switches on track haulage shall be no more than _____.

A. 500 feet
B. 1000 feet
C. 2000 feet
D. there is no maximum distance

287. What kind of acid is used in storage batteries?

A. hydrochloric
B. sulfuric
C. sodium chloride
D. gastro-intestinal

288. What gas escapes from batteries?

A. hydrogen
B. hydrogen sulfide
C. sulfuric
D. sulfuric chloride

289. Ground beds on the surface shall be tested at least _____, and recorded in a book provided for that purpose.

A. every month
B. every 3 months
C. every 6 months
D. every 12 months

290. All electrical equipment shall be examined _____ in a general way, by the mine electrician or a competent person appointed by the mine foreman.

A. daily
B. weekly
C. monthly
D. yearly

291. The examination made in question 290 must be entered in the:

A. electricians' book
B. assistants' book
C. mine foreman book
D. does not have to be documented

292. The mine foreman is required to countersign the report as listed in questions 291.

A. true
B. false

293. The maximum distance between trolley hangers shall be no more than _____.

A. 20 feet
B. 24 feet
C. 30 feet
D. 50 feet

294. Trolley wire guard boards shall be installed and extended no less than _____ from the wire.

A. 2 inches
B. 6 inches
C. 12 inches
D. no regulation exists

294. Trolley and feeder wires shall be kept no closer than _____ from pillar workings.

A. 50 feet
B. 100 feet
C. 150 feet
D. 300 feet

295. Cables in rooms, pillars, or other working places shall be hung on suitable hangers and kept no closer than _____ from the working face.

A. 25 feet
B. 50 feet
C. 70 feet
D. 100 feet

296. Storage battery charging stations shall be _____.

A. installed in return air
B. installed in section air
C. installed in a separate split of air
D. installed outside

297. Battery rooms and charging stations shall have:

A. "no smoking" signs
B. 10 lb. fire extinguisher and 240 lbs. rock dust
C. artificial respiration chart
D. all of the above

298. Telephone service or equivalent two-way communication facilities shall be provided if the working sections are more than _____ from the main portal.

A. 100 feet
B. 1000 feet
C. 1500 feet
D. one air connection

299. Telephone lines shall be installed:

A. on the same side as the power cables
B. opposite side of the entry from power cables
C. in the return entries
D. anywhere

300. The maximum potential used for signal purposes shall not exceed:

A. 4 volts
B. 24 volts
C. 125 volts
D. 480 volts