

QUESTIONS TO BE ANSWERED BY ALL MOTORMEN-
CONDUCTORS BEFORE COMMENCING DUTY IN
THAT CAPACITY.

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1. Where is the trolley wire fed with electricity from the power house?
2. Explain the course of the current from the trolley wire back to the power House.
3. Where are the automatic switches located and what are their uses?
4. How do you know when the automatic switch is closed?
5. Which position must the automatic switch be in when car is left in depot?
6. What are frequent causes of the automatic switch opening?
7. If automatic switch opened when car was on an up grade and the air brake failed, explain what action what you would take,
8. How many handles are required to operate controller?
9. What is the large one for?
10. What is the small one for?
11. What kind of movements of controller are necessary and why?
12. Which are the series positions?
13. Which are the parallel positions?
14. What sort of movement is necessary between positions 4 and 5?
15. Which are the two running positions?
16. Name the resistance positions in series also in parallel.
17. Why is the resistance put in the circuit?
18. Where is the resistance located?
19. What would be the effect of running on the resistance for a long period?
20. How long should you rest the resistance positions when on a level?
21. Should you make any difference when ascending a gradient?
22. How do you know when you have rested sufficiently long on resistance positions?
23. What sort of movement is necessary when throwing to "off" position?
24. Why is this necessary?
25. How should you act if the wheels slipped when electricity was applied?
26. At what times are you permitted to open the controller?
27. What precaution must you take before doing so?
28. Under what conditions are you permitted to reverse while car is moving?
29. If automatic switch opened on reversing, what would you do?
30. If car commenced to run backwards on a hill with defective service brake, explain fully what you would do.

31. Where is the gear wheel located?
32. Where is the pinion wheel located?
33. If the teeth of pinion wheel became stripped what would result?
34. What would you do in a case similar to the above?
35. How would you detect a flat on one of the wheels?
36. If automatic switch opened and would not remain closed when using power what would you do?
37. At which position does car start with either motor cut out?
38. Why is it necessary to give more time on each position with motor cut out?
39. If unable to get power handle to the "off" position with power on, what would you do?
40. Under what condition would the motors act as brake if in the above case your car had to be pulled to the depot?
41. How can this be prevented?
42. Is it right to have power and brake on at the same time?
43. How is No. 1 motor cut out?
44. How is No. 2 motor cut out?
45. What precaution is necessary when passing under sectional insulators?
46. What must be done just before the car stops in regard to the brake?
47. Which position must trolley pole be in when car is running?
48. What must be done with the end of the trolley cord?
49. Explain what you would do if the circuit were broken at the wheels through a dirty condition of the rail?
50. What is the most common cause of the circuit of lines going out?
51. What else may be the cause?
52. Are you permitted to run your car faster when running to the depot?
53. What precautions must be taken before the car is left in the depot?
54. Would it be right to run your car close to a vehicle on the line?
55. Have you, as motorman in charge of a car, any more right to the road than drivers of other vehicles?
56. Is there any danger of the automatic facing points being turned against your car?
57. When looking around car at terminus, what should you give special attention to?
58. What is the fullest extent to which you may apply power when going around a curve?
59. When a car fails to start, if the lights burn normally what two things does it prove?

60. Name in proper order the things you would do to locate the fault when a car fails to start?
61. How is No. 1 end of your car indicated?
62. Explain how the track telephone is used.
63. What is it necessary for you to do in regard to time as soon as you know the power is off?
64. Should the car become out of control on a grade at the bottom of which is a curve, what would you do?
65. Westinghouse air brake. Give a brief outline of the braking system.
66. Where are the air reservoirs placed?
67. What is the purpose of the reservoir?
68. At what pressure should the compressor motor commence working?
69. At what pressure should the compressor motor cease working?
70. How do you know what pressure you have in the reservoirs?
71. What is the minimum pressure at which you are permitted to operate the brakes?
72. Where are the pressure gauges placed?
73. Give a brief outline of the compressor electrical circuit.
74. Is it necessary to watch the pressure gauge readings?
75. How would you operate the car if the pressure failed?
76. How is the compressor controlled?
77. Explain what happens when the brake reversing handle is moved to the right end position?
78. How is an emergency application made?
79. How is the sand applied?
80. How is the brake released?
81. What is the lap position and what is its purpose?
82. What automatic safety device is there in addition to the governor?
83. How may air be released from reservoirs in cases of necessity?
84. Should the governor fail to release at the prescribed pressure, namely 75 lbs., what action would you take to prevent damage being done through excessive pressure?