Automotive Technology I Exam

Contestant Number: \_\_\_\_\_\_\_\_\_

Score: \_\_\_\_\_\_\_\_

Read each question carefully, then choose the best/most correct answer and circle the corresponding letter of the answer you chose.

1. What are the 4 strokes of an internal combustion engine in the correct sequence?
2. Compression, Exhaust, Intake, Power
3. Intake, Compression, Power, Exhaust
4. Intake, Power, Compression, Exhaust
5. Power, Compression, Exhaust, Intake
6. Choose the correct valve and piston actions for the Power stroke.
7. Piston moves down, intake valve is open
8. Piston moves up intake valve is closed
9. Piston moves down both valves are open
10. Piston moves up both valves are closed
11. Technician A says the flywheel keeps the crankshaft moving between power strokes. Technician B says that the camshaft controls the pistons. Who is correct?
12. A only
13. B only
14. Both A and B
15. Neither A nor B
16. What do the letters PPE stand for in regards to safety?
17. Personal Protective Equipment
18. Professional Protective Equipment
19. Professional Policy for Equipment
20. Personal Private Equipment
21. Before using any power tool, you should first \_\_\_
22. Learn how to use it
23. Get your instructors permission
24. Put on your PPE
25. All of the above
26. When working on vehicle with its engine running, you should make sure there is proper ventilation because of this poisonous gas in the exhaust fumes?
27. Carbon Dioxide
28. Carbon Monoxide
29. Hydro Carbons
30. NOx
31. What class of fire is a gas/oil fire?
32. Class A
33. Class B
34. Class C
35. Class D
36. What is the first thing you should do if someone is being shocked by electricity?
37. Call the teacher
38. Dial 911
39. Pull the person away from the electricity
40. Turn off the power
41. When working in the shop you should always wear \_\_\_
42. Safety glasses
43. Shoes
44. Both A and B
45. Neither A nor B
46. When working on a car’s electrical system, the first thing you should do is \_\_\_
47. Check the manual for possible problems
48. Disconnect the battery
49. Get your tools
50. Make sure your work area is clean
51. A vehicle has no brake pedal free play. This problem may cause:
52. A low brake pedal
53. Pressure build up and dragging brakes
54. A spongy brake pedal
55. Fluid leaking past the primary piston cups
56. Technician A says that any time the brake lines are disconnected from the master cylinder, it has to be bled. Technician B says any time the brake system is worked on, the master cylinder must be bled. Who is correct?
57. A only
58. B only
59. Both A and B
60. Neither A nor B
61. A vehicle pulls to the left during a brake application. The cause of the problem could be:
62. The right front brake linings are contaminated with grease
63. The piston is seized in the right front brake caliper
64. The master cylinder pistons are swollen from contaminated fluid
65. The secondary compensating port is plugged in the master cylinder
66. A metering valve delays pressure to which set of brakes under which braking condition?
67. The rear brakes under light braking
68. The rear brakes under heavy braking
69. The front brakes under light braking
70. The front brakes under heavy braking
71. To test the brake warning light circuit:
72. Drain the master cylinder, start the engine, and watch for the warning light to illuminate
73. Disconnect the switch, start the engine, and apply moderate brake pressure
74. Replace the switch because it may be faulty
75. Ground the warning switch wire with the ignition on
76. On some suspension systems , camber adjustment can be made by doing any of the following EXCEPT:
77. Adding shims to the upper control arms
78. The lower control arm can be heated and bent
79. Cams may be installed at the strut to knuckle mount
80. Upper ball joint eccentric spacers may be installed
81. A vehicle with rack and pinion steering sometimes darts toward the side of the road after hitting a bump. Technician A says the caster may be too close to zero degrees. Technician B says the rack mounting bushings may be worn and loose. Who is correct?
82. A only
83. B only
84. Both A and B
85. Neither A nor B
86. Some idler arms are adjustable. Technician A says the adjustment enables settings to allow the vehicle to turn in a tighter circle. Technician B says the adjustment is to give the driver more road feel. Who is correct?
87. A only
88. B only
89. Both A and B
90. Neither A nor B
91. When replacing a power steering pump belt, the best way to assure proper belt tension is to:
92. Check by hand for 1 inch deflection
93. Tighten to the specification written on the belt
94. Use a belt tension gauge
95. Use a large pry bar to get the belt as tight as possible
96. Technician A says tire rotation equalizes wear among the four or five tires rotated. Technician B says different vehicle manufacturers may recommend different rotation patterns. Who is right?
97. A only
98. B only
99. Both A and B
100. Neither A nor B
101. When testing computer controlled systems, a digital multimeter should be used with an input impedance of at least:
102. 10k ohms
103. 100k ohms
104. 1 megohm
105. 10 megohm
106. When trouble shooting a slow drain on the battery, which diagnostic tool should be used?
107. Ohmmeter
108. Ammeter
109. Voltmeter
110. Test light
111. The specific gravity of a battery is being checked. Technician A says that the reading must be corrected for the temperature of the electrolyte. Technician B says that there should not be more than 50 points variation between cells. Who is correct?
112. A only
113. B only
114. Both A and B
115. Neither A nor B
116. What type of problem is indicated by a lower than normal amperage reading when a circuit is activated?
117. An open
118. A short
119. High resistance in the circuit
120. A blown fuse
121. During a starter current draw test, the current draw is more than specified, and the cranking speed and battery voltage are less than specified. The cause of this problem may be:
122. Worn bushings in the starter motor
123. High resistance in the field windings
124. High resistance in the battery positive cable
125. A burned solenoid disc and terminals
126. A customer complains that the engine will not turn over. Technician A says to first check if the engine will turn over by turning the crankshaft pulley nut. Technician B says to check the battery condition first. Who is correct?
127. A only
128. B only
129. Both A and B
130. Neither A nor B
131. When discussing an alternator with zero output, Technician A says the alternator field circuit may have an open circuit. Technician B says the fuse link may be open in the alternator to battery wire. Who is correct?
132. A only
133. B only
134. Both A and B
135. Neither A nor B
136. A vehicle has one dim taillight and the other taillights have normal brilliance. Technician A says there might be high resistance between the dim taillight and the ground. Technician B says there might be a defect in the taillight contacts in the headlight switch. Who is correct?
137. A only
138. B only
139. Both A and B
140. Neither A nor B
141. The instrument cluster bulbs are completely inoperative. Technician A says one of the instrument cluster bulbs may have an open circuit. Technician B says the rheostat in the headlight switch might have an open circuit. Who is correct?
142. A only
143. B only
144. Both A and B
145. Neither A nor B
146. Which of the following is the LEAST likely cause for an inoperative windshield washer system, if the windshield wipers work properly?
147. Low fluid levels
148. Defective switch
149. Defective pump
150. Blown fuse
151. An engine miss is being diagnosed using a cylinder leakage test. Technician A says that any cylinder with over 20 percent leakage has excessive leakage. Technician B says that air leaking from the tailpipe indicates a cracked cylinder head. Who is correct?
152. A only
153. B only
154. Both A and B
155. Neither A nor B
156. If new rings are installed without removing the ring ridge, what may be the result?
157. The piston skirt may be damaged.
158. The piston pin may be broken.
159. The connecting rod bearings may be damaged.
160. The rings may be broken
161. Technician A says an intake manifold vacuum leak may cause a cylinder misfire with the engine idling. Technician B says an intake manifold vacuum leak may cause a cylinder misfire during hard acceleration. Who is correct?
162. A only
163. B only
164. Both A and B
165. Neither A nor B
166. All of the following are causes of low engine oil pressure EXCEPT:
167. Worn camshaft bearings
168. Worn crankshaft bearings
169. Weak oil pressure regulator spring tension
170. Restricted pushrod oil passages
171. A collapsed cooling system hose may be an indication of a:
172. Damaged radiator cap sealing gasket.
173. Damaged radiator filler neck seat.
174. Damaged expansion tank.
175. Damaged radiator cap vacuum valve.
176. An engine idling too fast. Technician A says that the IAC may be stuck open. Technician B says that the intake manifold gasket may have an air leak. Who is correct?
177. Technician A
178. Technician B
179. Both Technician A and B
180. Neither Technician A nor B
181. Mechanic A says that pulse width measures in thousands of an inch. Mechanic B says that pulse width measures in thousands of a second. Who is correct?
182. Technician A
183. Technician B
184. Both Technician A and B
185. Neither Technician A nor B
186. An ignition coil may be defective. Technician A says that the primary circuit should have high resistance. Technician B says that the secondary circuit should have low resistance. Who is correct?
187. Technician A
188. Technician B
189. Both Technician A and B
190. Neither technician A nor B
191. A fuel system will not hold residual pressure. Mechanic A says that a fuel injector is leaking. Mechanic A says that a fuel injector is leaking. Mechanic B says that the fuel pump is bad. Who is correct?
192. Technician A
193. Technician B
194. Both Technician A and Technician B
195. Neither Technician A nor Technician B
196. Technician A says that DTC’s must be cleared as soon as they are written down. Technician B says that DTC’s should be cleared only after a complete diagnosis and repair are made. Who is correct?
197. Technician A
198. Technician B
199. Both technician A and technician B
200. Neither Technician A nor technician B
201. A non-electronic automatic transaxle has harsh 3-4 up shifts. All the other shifts are normal. Technician A says the fourth accumulator piston may be stuck. Technician B says that pressure regulator valve is sticking. Who is correct?
202. A only
203. B only
204. Both A and B
205. Neither A nor B
206. When reinstalling a transmission on a rear-wheel drive (RWD) vehicle, which of these components is usually replaced.
207. Transmission cooler line O-rings
208. Flex plate
209. Torque converter inspection cover
210. Driveshaft
211. All of the following problems could result in clutch disc burning EXCEPT:
212. A sticking clutch drum check ball
213. A reduced clutch pack clearance
214. A damaged clutch piston seal
215. A higher-than-specified line pressure
216. A front-wheel drive automatic transmission shudders during TCC application. Which of these could be the cause?
217. Low throttle pressure
218. TCC solenoid stuck closed
219. Dirty transmission fluid
220. Excessive TCC apply pressure
221. A computer-controlled transaxle does not shift into fourth gear. Technician A says to begin diagnosis by checking for DTC’s. Technician B says that battery voltage should be tested. Who is correct?
222. A only
223. B only
224. Both A and B
225. Neither A nor B
226. During manual transmission removal and replacement:
227. The driveshaft may be installed in any position on the differential pinion gear flange.
228. The transmission weight may be supported by the input shaft in the clutch disc hub.
229. The engine support fixture should be installed after the transmission-to-engine bolts are loosened.
230. The clutch disc must be aligned with an aligning tool before transmission installation.
231. When replacing a wheel stud, Technician A says that you should use a hammer to remove and install the axle shaft flange. Technician B says you will need to heat the wheel studs with a torch to remove them. Who is correct?
232. A only
233. B only
234. Both A and B
235. Neither A nor B
236. Technician A says that collapsible shaft spacer may be reused if the differential is disassembled and overhauled. Technician B says that after proper pinion bearing preload is set, pinion depth is adjusted by backing off the pinion flange nut. Who is correct?
237. A only
238. B only
239. Both A and B
240. Neither A nor B
241. Excessive ring gear run out on the dial indicator may be caused by excessive:
242. Differential case run out
243. Side bearing preload
244. Side gear end play
245. Ring gear bolt torque
246. A front-wheel drive car has a clicking noise while turning. Technician A says this may be caused by a worn outer-drive axle joint. Technician B says this may be caused by a front wheel bearing. Who is correct?
247. A only
248. B only
249. Both A and B
250. Neither A nor B