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These sample questions have been reviewed and validated by our respective Board of Examiners which may serve as a guide for the review of aspiring Marine Deck and Engineering Officers, towards the successful completion of the Theoretical Examination.

The following sample questions do not reflect the actual set of database of questions given during the theoretical examination. Examinees are encouraged to study the contained sample questions and probable answers as they are intended to give an indication of the format and difficulty level of the theoretical examination.

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Thank you.
FUNCTION 1 – Competence 1

1. At what temperature in degree Celsius will safety devices called fusible plug installed in air compressor or compressed air system melts in order to prevent explosion?

2. It is necessary to transfer fuel oil to the settling tanks in order to _______.

3. Diesel engine crankcase oil mist detectors are designed to analyze ___________.

4. What should you do FIRST to correct a condition wherein a diesel engine is operating with excessively high exhaust temperature on all cylinders?

5. Immediately report any abnormal condition or emergency occurring in the fire room to the_____.

6. Which of these will have the greatest lasting effect on the crew with respect to safety?

7. Personnel who are moving or handling materials aboard ship should not follow which practice?

8. Which of the following statement is/are not safety precaution of gas welding in acetylene tank?

9. Safety is dependent on orderliness and cleanliness that may be kept by ___________.

10. What is the main reason that live auxiliary steam is normally attemporated before entering the feed heater of a flash evaporator?

11. Before you do any work on electrical or electronic equipment, which of the following precautions should you carry out?

12. Which of the following precautions should be observed to safeguard the operator and other personnel working on or near a hoisting operation?

13. Which of the following is not a recommended safe practice?
14. A steam vessel is operating at sea and despite troubleshooting the system by all the vessel’s engineers, the transfer of fuel to the settler has not been possible and the settler will be empty in a few minutes. As the watch engineer, you NEXT step should be to______.

15. Diesel engine control can be obtained by the bridge______.

16. Constant capacity, pressure atomizing, fuel burners designed to meet a wide variation in steaming loads on an auxiliary boiler, are ______.

17. The highest loads applied to the diesel engine crankshaft main bearings are ________.

18. Underway on watch in the fire-room, the bridge reports black smoke coming from the stack. This would indicate______.

19. Automatically fired auxiliary boilers use fuel oil strainer arrangements of either the simplex type or ______.

20. While standing watch at sea, a main engine bearing high temperature alarm has just been indicated on the control panel. Your next action should be to______.

21. When standing watch at sea, steaming full ahead, adding make-up feed-water from reserve feed double bottom tanks would also have a tendency to change which of the following parameters?

22. When standing watch at sea, steaming full ahead, reducing the boiler forced draft pressure would also have a tendency to correct which discrepancy?

23. Diesel engine automated control systems may utilize sensing devices of dual function, with sensing ranges providing both alarm and engine shut down capability. Which of the key points listed would only require an alarm sensor?

24. Prior to relieving the watch you should first check the fire-room status by verifying the boiler steam drum level and______.

25. Prior to relieving the watch you should first check the fire-room status by verifying the fuel oil pressure to the boilers and______.
26. You have just been notified by the watch-stander in the engine room, a main engine bearing high temperature alarm is indicated and remotely displayed as 145 degrees Fahrenheit, you should______.

27. When relieving the watch in the fire-room, you should first check the fuel pressure to the boiler and______.

28. When relieving the watch in the fire-room, you should first check the boiler water level and______.

29. When relieving the watch in the fire-room, you should first check the boiler steam pressure and______.

30. Prior to relieving the watch you should first check the fire-room status by verifying the boiler steam drum level and______.

31. A bronze bearing liner with a lead-tin flashing has a milky-white color over most of its surface and some areas of exposed bronze. The white coloring indicates______.

32. Which of the listed governor characteristics will determine the final load sharing relationship between paralleled diesel generators?

33. While on watch in the engine room and steaming at a steady rate, the water level begins to decrease and suddenly drops out of sight in the boiler gage glass. Your FIRST corrective action should be to______.

34. While inspecting the main bearing on a diesel engine you find impregnated dirt and scratches in the bearing surface. You would, therefore, suspect that______.

35. When relieving the watch in the fire-room, you should first check the boiler water level and______.

36. Control of the main propulsion diesel engines can be shifted from the engine room to the wheelhouse from the______.

37. What is the limit that each Administration shall establish for the purpose of preventing alcohol abuse for masters, officers and other seafarers while performing designated safety, security and marine environmental duties?
38. How many weeks shall an expectation of 70 hours in a week be granted by the administration?

39. What is the minimum number of hours of rest in a 24 hour period?

40. What is the minimum standard rest of a rating forming part of an engineering watch within a 24-hour period?

41. The hours of rest may be divided into no more than two periods, one of which shall be at least how many hours?

42. A perfect vacuum is represented by_____.

43. If the temperature in a hot air manifold were found to be 122°F, what will be the equivalent reading on the centigrade scale?

44. In a diesel engine closed freshwater cooling system, the cooling water pressure drop through the engine is 10 psig, and the pressure drop through the heat exchanger is 4 psig at maximum flow rates. The cooling water pump must produce a discharge head of at least ________.

45. Cylinder oil is used for__________.

46. All persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch and those whose duties involve designated safety, prevention of pollution, and security duties shall be provided with a rest period of not less than ________________.

47. One horsepower is equal to ____________.

48. Injection lag in a diesel engine may be caused by__________.

49. Operating a diesel engine for prolonged period at temperature lower than the normal design temperature may cause______.

50. A diesel generator has just been paralleled with an AC turbogenerator, but the load cannot be properly divided. This could be caused by__________.

51. Which of the listed fuel oil ignition methods are commonly found on automatically fired auxiliary boilers aboard merchant vessels?

52. What maybe the cause of injection lag in a diesel engine?
53. When the engine is running, a leaking air starting valve is indicated by_____.

54. If the main propulsion diesel engine governor works irregularly with a jerking motion, a possible cause can be __________.

55. While inspecting the steering gear at sea, you should check for __________.

56. A lube oil filter can be used to remove most contaminants from lube oil. What contaminant will remain in the lube oil after filtering?

57. Diesel engines driving alternators operating in parallel must maintain a set frequency regardless of load changes. What is the governor characteristic used to accomplish this?

58. A hand held digital tachometer give a bad reading if __________.

59. What might be the cause of excessive vibration of an automatically fired auxiliary boiler?

60. A pneumercator is an instrument used to indicate _____.

61. The action should take when water is found in the fuel oil setting tank is to ________.

62. What is the function of an expansion tank in a diesel engine cooling system?

63. The expansion tank for the jacket cooling water which is a closed cooling type is used to __________.

64. What should you do first before any work is to be carried out on a burner in an automatically fired boiler?

65. A good housekeeping on a vessel prevents fires by __________.

66. What reading will be obtained if we use a dry uncoated sounding rod or tape to measure the depth of water in a reserve feed water tank?

67. Which of the following statements concerning the factors affecting ignition delay is correct?
68. Which of the conditions listed would cause the stern tube lube oil header tank level to decrease?

69. How does a "quick closing" valve operate?

70. What would be the possible cause of high diesel engine cooling water temperatures?

71. As a duty engineer you should know that some auxiliaries are not designed to handle steam at boiler pressure. Which of the following devices is usually fitted in the branch line to deliver steam at the correct pressure?

72. Which of the following is the most critical information that the officer in an engineering watch be relayed during taking over a watch?

73. Diesel engine control can be obtained by the bridge __________.

74. Where does contaminated oil enter the centrifuge in a disk type centrifugal purifier?

75. When the machinery spaces are in the periodic unmanned condition, the designated duty officer of the engineering watch shall be ____________.

76. If the diesel engine fuel injection timing is changed to delay the start of injection until the pistons are at top dead center, the engine will _____.

77. The standards of marine engines of over 23 HP for starting purposes in most cases should__________.

78. Is defined as the rules set by American Society of Mechanical Engineers, which is equivalent to evaporation of 34.5 lb of water per hour from and at 212°F?

79. Why is condensate being pumped from the condenser to the DC heater instead of directly to the boiler?

80. What speed is known when the rotating shaft frequency and the natural vibrating frequency become synchronized at a particular speed?

81. To ensure that a bearing is receiving the proper oil supply, you should check the ________________.
82. All portable electric tools should have a ground connection to prevent _________.

83. An engineer on duty inspecting an unmanned engine room at night should be aware of which of the following precautions?

84. The device most commonly used to measure the exhaust gas temperature of a diesel engine cylinder is called a _________.

85. Exhaust valve grooving and corrosion is caused by certain components of residual fuel oil. These components are sodium, sulfur, and _____________.

86. A dirty atomizer sprayer plate in the burner of an auxiliary boiler would be indicated by _________.

87. Under what condition may the master suspend the schedule of hours of rest and require a seafarer to perform any hours of work necessary?

88. In a closed cooling system for a turbocharged, four-stroke/cycle diesel engine, fluctuate water pressure can be caused by _________.

89. The one method of constructing large marine diesel engines and reducing the total engine frame weight is through _________.

90. Not properly vented main engine jacket cooling water can _____________.

91. Which of the following statements is true concerning the centrifuging of lubricating oil?

92. Why do most temperature control valves in diesel engine close freshwater cooling systems bypass the flow of jacket water around the cooler instead of around the engine?

93. A diesel generator governor is hunting. After changing the oil the governor is flushed and the compensation needle valve is adjusted; but the hunting persists. You should NOW _____________.

94. When maneuvering, you discover heavy smoke coming from the turbocharger casing. What action should you take first?

95. Before loosening pump covers how should the pressure be checked?
96. Which system should be tested and used when required to raise the water level in an idle boiler?

97. A pyrometer is capable of producing a voltage by _____.

98. The DC heater functions to _____.

99. While standing watch in the engine room, you notice a high reading at a salinity cell located in the loop seal between two stages of a flash type evaporator. This would indicate _____.

100. As an engineer which action should you normally take during each watch when the auxiliary boiler is operating?

101. If one fuel oil strainer of a duplex unit becomes clogged while the vessel is steaming at sea, the first action is to __________.

102. Which of the following first check to carry out when suction gauge reading is high but no liquid is passing through the bilge pump?

103. If the operating speed of a diesel engine increases without an apparent change in the engine control settings, you may suspect a __________.

104. Excessive lubricating oil consumption in a running diesel engine can be caused by ________.

105. When the cold tappet clearance is less than that specified by the engine manufacturer, the diesel engine valves will __________.

106. Increasing the valve clearance between a valve stem and rocker arm, will in the valve ________.

107. Under what condition shall the officer in charge of the engineering watch shall ensure that permanent air or steam pressure is available for sound signals?

108. Oil accumulating in the exhaust piping or manifold of a diesel engine can be caused by ______.

109. Valve lash or clearance refers to the __________.
110. In an automated engine the center from which the ship's engine room is controlled is called the _____.

111. What is the most important parameter to check right after any diesel engine is started?

112. Crank web deflection readings will give a positive indication of __________.

113. Which of the following design features is most common to two-stroke/cycle low-speed main propulsion diesel engines?

114. Cooling water pumps driven by direct-reversing diesel engines are usually ______.

115. A boiler feed stop-check valve would be located at the _____.

116. Rapidly discharging condensate into the DC heater during normal steaming conditions could cause _____.

117. Most large main propulsion diesel engines use a duplex lube oil strainer to ______.

118. Throttling a burner air register on an auxiliary boiler could result in ______.

119. Significant retardation of diesel engine fuel injection timing will result in ______.

120. One result of operating a diesel engine at light load with excessively low cooling water temperatures is a/an ________.

121. Which of the following problems can cause fluctuating pressure in the closed cooling system of a main propulsion diesel engine?

122. When the opening pressure of a diesel fuel injector is LOWER THAN that specified by the engine manufacturer, the effect would be a/an ________.

123. The effective stroke of a constant-stroke, individual, fuel injection pump is varied by the __________.
124. The minimum design height of the DC heater is determined by the _____.

125. You are operating a main propulsion diesel engine at a constant load when the jacket temperature begins to rise. This could be caused by _________.

126. With full load on the main engine, the RPM of the turbocharger is too low, what may be the cause?

127. If two compressors must be operated in parallel in order to maintain the box temperatures, a careful watch should be kept on the _________.

128. The bulk of the solid material entering a centrifugal purifier with lube oil is ________.

129. A solenoid operated distillate three-way valve is installed in the discharge line between the distilling plant and the potable water tank. This valve will trip and dump the distillate discharge if the _____.

130. The DC heater automatic level dump valve is used to _____.

131. Which of the following kind of tank is being used onboard that collects the dirty water from basins and sinks when the vessel is in port so that water pollution can be prevented?

132. While at sea, the flash type evaporator is discharging the output to the distill tanks. If it becomes necessary to reduce the feed water temperature below 165°F, you should ______.

133. A report when an incident takes place involving the discharge or probable discharge of oil (Annex I of MARPOL 73/78)__________.

134. Exhaust pyrometer readings provide an indication of the ________.

135. A salinity indicating system functions on the basic principle of measuring the _____.

136. Fuel combustion in a diesel engine cylinder should begin just before the piston reaches top dead center and should _____________.

137. An auxiliary diesel generator continues to run after you try to shut down. Your next course of action should be to __________.
138. Dark exhaust gas from the engine is caused by ______.

139. During the fuel injection period, fuel pressure must exceed cylinder gas pressure to __________.

140. The main propulsion diesel engine jacket water temperature rises above normal, with the raw water sea suction and the expansion tank water level being normal. Which of the following problem is most likely the cause?

141. The main propulsion diesel engine jacket water temperature rises above normal, with the raw water sea suction and the expansion tank water level being normal. Which of the following problem is most likely the cause?

142. The process of killing the harmful bacteria from the water so as to make it safe for use is called______.

143. Below are some of the causes of high exhaust gas temperature except ________.

144. Cracked cylinder liner of a 2-stroke engine is indicated by__________.

145. Which of the following conditions can cause oil to accumulate in the cooling system of a diesel engine?

146. The purpose of an oil mist detector in a main propulsion diesel engine is to warn of ____________.

147. The purpose of an oil mist detector in a main propulsion diesel engine is to warn of ____________.

148. The pressure in an operating diesel engine cylinder continues to rise for a short period after the piston passes top dead center as a result of the ________.

149. During cold ship start-up you should open the feed-water outlet and condensate valves to a DC heater in order to _____.

150. Which of the filters listed will deplete the additives in lubricating oil?
 OPERATIONAL LEVEL – ENGINE

151. The direct cause of a crankcase explosion can be attributed to __________.

152. Diesel engine jacket water is used in distilling units in the __________.

153. Which of the following is a kind of report necessary to ensure the effective operation of the system? __________?

154. A burned exhaust valve may be detected by a higher than normal ________.

155. Engine room bilge water can be pumped out overboard safely by the use of which equipment listed below?

156. The flash point of a residual fuel oil should be used to determine the highest temperature to which the oil may be heated ________.

157. In an operating diesel engine, which of the following is true concerning a tube and shell type jacket water heat exchanger?

158. The major cause of trouble in a mechanical-hydraulic governor is contamination of the hydraulic fluid by __________.

159. If fuel injection in a diesel engine begins earlier than the design earlier than the design start of injection, ignition may be delayed because the __________.

160. An engine fails to start even if all temperatures and pressures are normal because ________.

161. Mist detectors used on large low-speed and medium speed main propulsion diesel engines monitor and check for the presence of __________.

162. Improper maintenance of an automatic auxiliary boiler oil burner could result in ________.

163. If fuel injection occurs too early, a diesel engine will lose power because the ________.

164. Excessive vibrations created by the main propulsion machinery are detrimental to which equipment listed below?
165. A change in engine speed is required before a governor is able to make a corrective movement of fuel rack. This aspect of governing is commonly expressed as a percent and is known as __________.

166. Sensitivity for a diesel engine governor is described as the __________.

167. What unit of measure expresses the chloride content of boiler water?

168. The following refers to the first law work transfer?

169. Reducing the clearance between a valve stem and rocker arm will result in the valve __________.

170. The effect of too much heating in the fuel oil of main engine is __________.

171. Diesel engine injection lag is caused by __________.

172. Which steam plant watch operating condition will require priority attention over the other conditions listed?

173. Which of the following procedures decreases the total dissolved solids concentration in the water of an auxiliary boiler?

174. What does it signifies if during your watch you hear a sound of an oil mist detector alarm?
   I. There is leakage of cooling water to the crankcase
   II. There is a dangerous accumulation of gases in the crankcase
   III. It could be a false alarm but needs confirmation

175. Which of the following is an example of head hazard?
   I. Impact from falling
   II. Flying Object
   III. Hair entanglement

176. Air trapped in the hydraulic fluid of a steering system would be indicated by _____.
   I. An improper rudder response
   II. Hammering noises in the equipment or transmission lines
   III. Popping or sputtering noises
177. Which of the DC heater operations listed will result in excessive dissolved oxygen in boiler water?
   I. Excessively high water level in the heater
   II. Adding excessive make up feed
   III. Operating the heater with a closed air vent

178. In a flash-type evaporator, an electrical salinity cell would be installed in the _____.
   I. Distillate outlet from the distillate cooler
   II. Distillate inlet to the distillate cooler
   III. Condensate drains from the distiller feed-water heater

179. Salinity cells are strategically installed in flash type distilling units to indicate the _____.
   I. presence of leaks in the flash chambers
   II. quantity of the distillate produced

180. Engine protection by means of an alarm or shutdown control can be obtained with devices that are sensitive to ___________.
   I. Temperature
   II. Pressure
   III. engine speed

181. What would be the result of adding phosphate compounds into the cooling system of a diesel engine?
   I. Protect the coolant from freezing
   II. Protect metallic surfaces from the corrosion

182. With regards to a diesel engine crankcase explosion, the most violent is the ________.
   I. primary explosion
   II. secondary explosion

183. A large low speed main propulsion diesel engine may become overloaded by ________.
   I. A heavily fouled hull
   II. Strong head winds and heavy seas

184. The exhaust system for a turbocharged two-stroke /cycle diesel engine functions to ________.
   I. discharge exhaust gases and smoke
   II. furnish energy to the turbocharger
   III. reduce engine room noise
185. If oil is dripping from the burner of a coil-type auxiliary steam generator, the cause may be _______.
   I. the oil valve not seating properly
   II. a loose boiler burner nozzle
   III. carbon on the burner nozzle causing deflection of oil spray

186. If the fuel/air ratio in an automatically fired auxiliary boiler is insufficient, the result could lead to _______.
   I. inefficient combustion
   II. dark smoke
   III. automatic shutdown

187. All members of the engineering watch should have adequate knowledge of the ____________.
   I. use of appropriate internal communication
   II. escape routes from machinery spaces
   III. location of fire fighting equipments

188. Prior to taking over the engineering watch while the ship is underway, relieving officers of the engineering watch should satisfy themselves regarding ____________.
   I. availability of fire fighting appliances
   II. state of completion of engine room log
   III. standing orders of the chief engineer officer

189. The relieving engineering watch officers when underway should be familiar with the ____________.
   I. level of fuel in the service tank
   II. potential adverse condition resulting from bad weather
   III. nature of work being performed on the machinery

190. The control system for a controllable pitch propeller can be programmed ____________.
   I. to produce a maximum combined propeller and engine efficiency between pitch and a given engine speed
   II. For continuous operation of the engine at preset conditions

191. If a crankcase explosion occurs in a diesel engine, you should stop the engine and ____________.
192. If the load on a diesel engine equipped with an isochronous hydraulic governor is increased, after compensation is performed by the governor, the engine speed will _________.

193. Prolonged operation of a diesel engine with a closed cooling water system, at lower than normal designed operating temperatures can _________.

194. One remedy for a high firing pressure, in addition to a high exhaust temperature in one cylinder of a diesel engine, is to __________.

195. When an auxiliary boiler is panting and emitting black smoke, you should ________.

196. A large, low-speed, main propulsion diesel engine is operating at 80% load and normal speed while the vessel is in calm seas. As the intensity of the seas increase, the engine speed governor maintains the same RPM, although the load indicator indicates an increase in load beyond its allowable limits. Which of the following actions should be taken?

197. In diesel engines, hydraulic valve lifters are used to _________.

198. Some diesel engines are fitted with a thermometer in the cooling water outlet from each cylinder. If the cooling water temperature from cylinders begins to rise above normal, you should suspect _________.

199. In a diesel engine exhaust system, the cooling of the exhaust gases below their dew point will result in _________.

200. Which condition could cause the feed pump of an auxiliary boiler to lose suction?

201. Which of the following statements is true concerning low pressure distilling units?

202. Which of the following will have the greatest effect on the mean effective pressure in a cylinder of a diesel engine operating at normal load?

203. Some fuel injection systems utilize port-and-helix metering. Which of the following statement describes a system ‘timed for port closing’?

204. An engine with high exhaust temperature but low compression is due to______________.
205. Which of the following conditions could cause black smoke to be discharged from the stack of an auxiliary boiler equipped with turbine-driven rotary cup atomizers?

206. What is the purpose of a hydraulic valve lash adjuster?

207. The highest pressure in any closed diesel engine freshwater cooling system is at the _____.

208. When there is excessive formation of frost in the evaporator coils, it will __________.

209. Increasing the load on an engine using a double-helix type injection pump varies the effective stroke of the pump to start __________.

210. During a routine round of a diesel engine generator, you observe a low oil level in the governor sump. If there is no visible sign of external leakage, you should suspect the cause to be a/an ________.

211. When an engineer on duty is inspecting an UMS-mode operated engine room at night, what precaution should be taken?

212. The longer ignition delay period resulting from the use of low cetane fuel, will result in ________________.

213. The bearing used to support the crankshaft of a diesel engine are generally called ________.

214. An incinerator is a waste disposal unit that will burn__________.

215. What is the easiest way to locate defective exhaust valves in a propulsion diesel engine?

216. Scavenging trunks are more prone to fire because they are_________.

217. If the intake, or exhaust valve stem clearance is found to be excessive, in addition to too little movement of the rocker arms, you should check for _____________.

218. An indication of excessive soot accumulation on boiler water tubes and economizer surfaces is due to_____.
219. The over-speeding of the diesel engine driving an electric generator could cause _____.

220. Steam drum water level indicators must be calibrated to compensate for density differences between the indicated drum water level, and the actual drum water level. If no compensation is made, the indicator will show a _____.

221. Reduction gear lube oil temperatures for keel cooler installations are generally __________.

222. Before using the steam soot blowers of boiler at sea, you should __________. 

223. Which of the substances listed is satisfactorily removed from the fuel by a centrifugal oil purifier?

224. Diesel engine automated control systems may utilize sensing devices of dual function, with sensing ranges providing both alarm and engine shut down capability. Which of the key points listed would only require an alarm sensor?

225. The primary objective of the auxiliary exhaust system is to supply steam to the _____.

226. You would not see a flow through the sight glass of the lube oil gravity tank overflow line when the ________.

227. An AC diesel generator incapable of being paralleled with the main bus normally employs an isochronous governor in order to __________.

228. You are standing watch in the engine room, with an auxiliary boiler. You should blow down a gage glass periodically to ______.

229. The term ‘proper metering’ as applied to a diesel fuel injection system, can be best defined as __________.

230. In a diesel engine, the spring force required for proper valve operation is determined by __________.

231. Adjustments to the compensating needle valve in a hydraulic governor should be made with the engine at __________.
OPERATIONAL LEVEL – ENGINE

232. The pressure differential across a diesel engine lube oil system duplex, filter should be checked to _________.

233. During diesel engine warm-up, which type of valve lash adjuster compensates for the change in the length of the exhaust valve stem?

234. Before the seas get rough, it is a good safety practice to _________.

235. If a two-stroke/cycle diesel engine is over-speeding due to leakage of lube oil into the cylinders, what should you do to stop the engine?

236. Prior to taking over the engineering watch, which of following responsibilities shall an officer of an engineering watch rely to the incoming watch?

237. Fuel oil enters the main engine cylinder through ______________.

238. Prior to departure, what preparations are required regarding pistons and cylinder liners of a diesel engine?

239. If the valve tappets in a diesel engine are set at greater clearances than those specified by the engine manufacturer, those valves will ___________.

240. When securing a fuel oil heater, you should __________.

241. When do you pump diesel oil into the burners of an auxiliary boiler?

242. Too high exhaust gas temperature in all cylinders is cause by the following except ________.

243. Immediately after a diesel engine, normal raw water and jacket water pressures are indicated. However, the jacket water temperature continues to rise. If there is no change in the sea temperature, you should suspect ________.

244. When the prime movers of two paralleled generators are equipped with mechanical-hydraulic governors, and are operating within their designed range, the unit with the least amount of speed droop will ____________.

245. A large change in ambient temperature, or using an oil of a viscosity different than the one recommended by the manufacturer in a
mechanical hydraulic governor, will result in the need to adjust the __________.

246. The fundamental difference between a 2-stroke and a 4-stroke engine is in the number of __________.

247. If the jacket water temperature rises rapidly above normal in a diesel engine, you should FIRST __________.

248. When on passage, what should be the condition of the fire main?

249. The amount of fuel delivered for each cycle must be in accordance with the engine load, and the same quantity of fuel must be delivered to each cylinder for each power stroke at that load. Which of the following statements describes this requirement?

250. The watch engineer finds the refrigeration compressor has blown the shaft seal. In this situation, he should __________.

251. Where is the safest place to do hot work in the engine room?

252. When all preparations have been made to ensure that the main engine is operational prior to departure, what will be the final test to be carried out?

253. In a diesel engine cooling system, the high temperature alarm contact maker will be activated on excessively high water discharge temperature from the __________.

254. Your vessel is entering a tropical area and high humidity is expected, what should you do to avoid condensation in the main engine’s air cooler?

255. Before using a boiler compressed air soot blower system, you should __________.

256. On a diesel engine equipped with individual jerk type fuel pumps, adjustments should be made to the tappets (push rods) of the pumps to __________.

257. On tank vessels using an automatic tape wells, free movement of the tape is normally checked by _____.

258. The watch engineer finds the refrigeration compressor has blown the shaft seal. In this situation, he should __________.
258. Failure of the speeder spring in a mechanical governor will __________.

259. An individual fuel injection pump is designed for variable beginning and constant ending of injection. For diesel engines operating a generator at constant speeds, the start of injection will ________.

260. What changes in valve timing will tend to increase the cooling effect on the exhaust valve in a four-stroke cycle turbocharged diesel engine?

261. Compensating needle valve adjustments to a hydraulic governor should be made with the engine __________.

262. If the fire ignites in the engine room as a result of a high pressure fuel oil leak, you should first ______.

263. Which of the items listed below is the correct method for removing intact engineers studs?

264. Which of the following most important measurement to check when overhauling centrifugal pumps?

265. What condition shall the chief engineer officer consult with the master whether or not to maintain the same engineering watch as when under way?

266. Which of the following type of electric light is used in pil tanker pump room?

267. What should the outgoing duty engineer do before he hand over the watch to his reliever?

268. Latent heat can be defined as the heat which must be added to a substance in order to change it from a ________.

269. If the engineer on watch is doubtful of the accuracy of water level in the boiler gauge glass, he should ____.

270. In an engine operation, what is the effect called that describes the unstable operation of the governor that will not maintain a steady state condition?

271. Which would you do FIRST on starting a gear pump if pumping cold oil?
272. Which of the following conditions should be immediately reported to the engineering officer on watch?

273. When you are securing a steam-reciprocating pump, which valves should you leave open?

274. In relieving watch, the outgoing duty engineer should ________________.

275. When there is sufficient reason that the relieving officer is not capable of watch keeping duties, the outgoing in charge of the engineering watch should ________________.

276. For equal amounts of fuel injected, what change in condition will have the greatest effect on the mean effective pressure in the cylinder of a diesel engine?

277. Some diesel engines are fitted with a thermometer in the cooling water outlet from each cylinder. If the cooling temperature from an individual cylinder begins to rise, what should you suspect?

278. Which of the following problems may occur if the opening pressure of a fuel injection nozzle is greater than specified by the engine manufacturer?

279. To avoid the possibility of a scavenge fire, what important check is to be carried out every watch and more frequently if a damaged piston ring is suspected?

280. When the diesel engine hydraulic governor is operating at controlled speed, which of the relationships listed will occur between the edges of the pilot valve and the ports of the pilot valve bushings?

281. The amount of fuel injected into a cylinder by a unit injector is controlled by __________.

282. In a jerk pump, the amount of fuel that will be forced through the spray nozzle on each upward stroke of the plunger depends on __________.

283. If the main engine jacket cooling water expansion tank level drops rapidly, what could this reaction indicate?
**OPERATIONAL LEVEL – ENGINE**

284. Why is the temperature of the scavenging air after the scavenging air cooler should not be lowered below recommended value?

285. Why is it important to slow down the main engine RPM while water washing the turbocharger?

286. If the valve lash on a diesel engine is set improperly, which of the following statements represents the most serious problem that can develop?

287. In testing the boiler water for chloride content will indicate the amount of ____.

288. Prior to engaging the turning gear, precautions should be taken to ____________.

289. Before the turning gear is engaged, precaution should be taken to ____________.

290. If a leak is suspected in a tube heat exchanger, what should be checked FIRST?

291. What is the proper way of storing an oxygen and acetylene cylinders?

292. Which of the following conditions will tend to increase the ignition delay period of combustion in a compression ignition engine?

293. The watch engineer has been unable to transfer the fuel oil to the settling tank while underway. As the tank level is becoming dangerously low, the engineer should now ____________.

294. The rate of pressure rise during the period following fuel ignition in a diesel engine is influenced by the length of the ignition delay period and the ____________.

295. During engine warm-up, the expansion of cylinder head valve stems due to the buildup of engine heat is compensated for by the ____________.

296. When there is a fire in an electric motor, normally the first step is to ____________.

297. If a diesel engine has been stopped because of piston seizure due to severe overheating, the crankcase ____________.
298. Why are hydraulic cranes being properly warmed up before they are used?

299. The possibility of a diesel engine crankcase explosion will be increased by operating an engine __________.