IMPORTANT COLLECTION OF MECHANICAL TECHNICAL INTERVIEW QUESTIONS

1. What is Conduction?
2. What is Convection?
3. What is Radiation?
4. How do you define a fluid?
5. What are the properties of fluids?
6. What are the types of forces that act on static fluids?
7. What is the principle behind the nozzle?
8. How is hydrogen produced?
9. What is the efficiency of an Engine?
10. What are the differences between an IC Engine and Propulsion Engine?
11. What are the devices that are used to measure pressure?
12. How would you measure pressure using a manometer?
13. What is the effect of temperature on the viscosity of a fluid?
14. What is the effect of temperature on Vapour pressure?
15. What is Top Dead Center (TDC) and Bottom Dead Center (BDC)?
16. Define what is meant by specific gravity and viscosity of a fluid?
17. What is the function of a Gear Box?
18. Explain pressure loss that occurs due to friction in pipes
19. What is flow rate?
20. What is momentum equation?
21. Which is more effective? Gear Drive or Belt Drive
22. What do you understand by Manufacturing Process?
23. What are CNC machines?
24. What is the program used in CNC machine?
25. Make a process flow chart of any manufacturing process that you know.
26. What are the makes available for CNC cutting tools?
27. How would you calculate the viscosity of a fluid?
28. How would you calculate the discharge of a fluid?

29. What is recrystallization temperature?
30. State the law of conservation of energy?
31. What is a turbo machine?
32. What are the losses that could occur in a turbo machine?
33. Provide the proper balanced chemical equation for rusting?
34. What is meant by degrees of freedom?
35. Why is the shape of a water droplet spherical in shape?
36. What is the various machining process that you are aware of?
37. What is quick return mechanism in a Shaping machine?
38. What is the difference between Shaping and Planning?
39. What are the various types of milling?
40. What are the various types of Grinding?
41. What are the differences between drilling, boring and reaming?
42. What is meant by a through hole and a blind hole?
43. What are the operations that are possible in a Lathe?
44. Under what circumstances will you go for: Shell Moulding, Green Sand Moulding and Die Casting ?
45. Draw a Gear and label the parts
46. What is Corrosion? How does it occur? What are the various methods to prevent it?
47. What are the various plating methods to stop corrosion?
48. What is Investment Casting?
49. What are the basic differences between a Diesel Engine and a Petrol Engine?
51. What is meant by the efficiency of an Engine?
52. What are the basic differences between a 2-stroke and a 4-stroke engine
53. What is the type of gear boxes used in automobiles?
54. What is the 5th gear (overdrive)?
55. Explain Bernoulli's principle and what are its applications?
56. How is roughness tested?
57. Define the terms Yield Strength, Tensile Strength and Impact Strength
58. A piece of metal is taken from a tropical climate to say Antarctica. What happens to the metal ? Does it become stronger or weaker? Explain your answer
59. What is Charpy V-notch's test ?

60. While head being the same and the Input pressure of the water being the same how could the efficiency of 2 turbines vary?
61. What are the parameters under consideration for the design of a turbine blade?
62. Explain in detail the design of a weld joint.
63. What are the differences between TIG & MIG welding?
64. In an organization who is responsible for Quality?
65. Explain what welding mechanism you will use for welding 2 10mm thick plates? What type of joint would you make?
66. What is a heat affected zone?
67. Explain the differences between a forged component and a casting component?
68. What did you observe in a forge shop?
69. What are the different types of lathes?
70. What is tensile testing?
71. Which department would you choose to work in an organization - Marketing, Design, R & D, Quality, Production
72. Draw and mark the nomenclature of a gear tooth
73. What inputs do you need to calculate the pitch circle diameter of a gear?
74. What are the different types of carbide tip tool?
75. Describe the main elements of a lathe? How would you machine a component using the lathe?
76. What is the difference between a sheet and a plate?
77. Draw the block diagram of the process flow and explain the manufacturing of the pressure cooker in the cooker factory that you had been for your in-plant training
78. What are the various Non-Destructive testing techniques? Explain each technique
79. What is a Newtonian fluid ?
80. What is Newton's law of viscosity?
81. What are the differences between translational flow and irrotational flow ?
82. What is Curl V (Curl of the Velocity vector) in translational flow and rotational flow ?
83. How is steel manufactured?
84. How do you distinguish between roller contact bearing and general bearing ?
85. How is thermodynamics relevant for Mechanical Engineering student ?
86. Cost C is a function of time T. C increases with T. Represent it in a graph
87. How are the wheels of a locomotive manufactured?

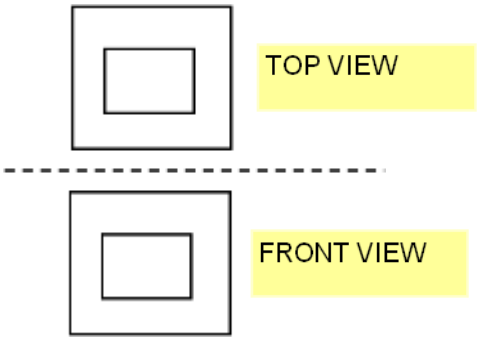
88. How are ball bearings made ?
89. Which is the suitable material to make Coil Springs ?
90. How is the fan relevant to thermodynamics ?
91. Which crystalline structure is responsible for hardness in Steel ?
92. What is re-crystallization temperature?
93. When you open a tap a little water trickles down. When you open it more water gushes forth. What is the change ? Is it change in pressure, momentum, velocity ? Explain.
94. How does the % carbon in mild steel influence the strength ?
95. What is the reason for low voltage in rural areas ?
96. What are the common defects in a casting ?
97. What is a pitot tube?
98. How do you determine the depth of a surface crack in a casting ?
99. When do you that a fluid is irrotational ?
100. Why is mechanical machines (IC Engines) operate with low efficiency when compared with electrical machines (Motors, Generators) ?
101. What is the lowest possible temperature that you can cool a fluid ?
102. For a given compression ratio which is more efficient - Petrol Engine or Diesel Engine ?
103. For a wooden table how would I do a non-destructive testing ?
104. Compressor process - Is it adiabatic or isothermal ? Explain
105. Draw a component that can be manufactured using the Lathe machine
106. Where is cast iron used ? How do you determine if cast iron could be used ?
107. What is the composition of High Speed Steel (HSS) ?
108. Provide an example of a forged component
109. Provide the practical uses for Copper
110. What is a SCARA Robot ?
111. Draw the sketch of a shaft with some length and diameter
112. Provide the name of a bearing manufacturer
113. How is the strength of steel dependent on the %carbon content ?
114. What is the difference between Drilling & Boring ?
115. Explain the differences between Fabrication & Machining ?
116. What is manufacturing ? How is manufacturing different from machining ?
117. Which welding gives maximum strength - Lap or Butt welding ? Explain

118. How would you test the strength of a welding ?
119. Draw the stress-strain diagram for any visco-elastic material
120. What is the difference between Piercing and Blanking ?
121. How do you manufacture dye's ?
122. What is a Draft angle ? Explain its relevance
123. What is SWAT anlaysis ?
124. What are the differences between Jigs & Fixtures ?
125. What is rivetting ? How is it different from Welding ?
126. What is the formula used for Gear design ?
127. What is a Wankel Engine ?
128. What is a thread chaser ?
129. What is a spring washer ?
130. For the manufacturing of a bottle come up with a process plan
131. Draw the stress-strain diagram for mild steel and glass
132. What is Rapid Proto Typing (RPT) ?
133. What is the fuel used in an aircraft ?
134. What are the differences between a Composite & an alloy ?
135. Mention some uses of jigs
136. How can we measure hardness of a material ?
137. Explain the die-casting process
138. Explain the differences between Hot Rolling & Cold Rolling
139. Explain the differences between 2 stroke and 4 stroke petrol engines
140. What is Broaching ?
141. What are the differences between Power steering & Mechanical steering ?
142. Draw the conventional representation of a Screw thread
143. Why do heavy vehicles use Diesel engines ?
144. What is Design of Experiment (DOE) ?
145. What do you know about emission standards such as E01, E02 etc ?
146. Which material is used for making shafts ? Explain how that material is suitable for making shafts
147. What is a pressure sensitive alarm ?
148. In an automobile what type of steering mechanism is used ?
149. What is a metal removal process ? Provide some examples

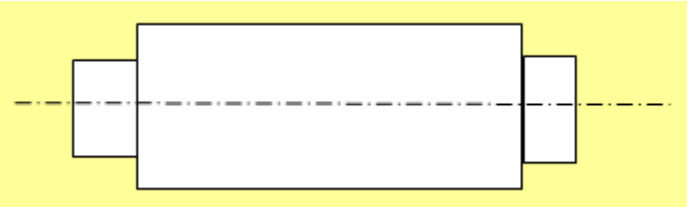
150. What are the differences between a machine tool and a machine ?
151. In metal forming what type of operations can be done ?
152. What do you mean by the term "Lean Manufacturing" ?
153. What material can be made from a dye-casting process ?
159. What are the raw materials used for Foundry ?
160. What are the Quality processes followed in Industry ?
161. What is shot blasting ?
162. What are the differences between IC Engines and EC Engines ?
163. Explain the working of a Thermal Power Plant ?
164. What is Otto cycle ?
165. What are the differences between a 2 stroke engine and a 4 stroke engine ?
166. What is knocking in Petrol Engines ?
167. Which is more efficient 2 stroke or 4 stroke engines ?
168. What are the differences between 1st angle and 3rd angle projections ?
169. Explain what is meant by Geometric Dimensioning & Tolerance (GD & T) ?
170. What are the symbols used in GD & T ?
171. Explain the difference between Center Lathe and Speed Lathe ?
172. What operations can be performed in a Lathe ?
173. What are the various processes to be followed in the design of a product ?
174. Explain the difference between ductility & brittleness ?
175. Categorize the following as to whether they are ductile (or) brittle : Cast Iron, Steel, Aluminium
176. What is annealing ?
177. What is carburizing ?
178. What is stress ? What is strain ? What is Young's modulus ?
179. Explain the principle of a pump
180. Explain what is meant by surface roughness ? How is it measured ?
181. What are the differences between a thermocouple and thermostat ?
182. What are G codes and M codes with respect to CNC machines ?
183. What is the difference between Shaping and Planing ?
184. Explain what is meant by Least Count of an instrument ?
185. What do you know about the tumbler mechanism ?
186. What is tolerance ?

187. What is fatigue failure ?
188. What is bending moment ? What is the significance of the bending moment in shaft design ?
189. What is the 0th law of thermodynamics ?
190. What is milling ? What is up milling and down milling ?
191. Explain what is meant by drawing ?
192. How will you manufacture a steel paperweight ? What are all the processes involved ?
193. What are the differences between drilling, boring and reaming ?
194. What are the components of an engine (either petrol engine or diesel engine)
195. Explain the manufacturing processes involved in the manufacture of Glass ?
196. What are the different types of welding ?
197. What are the different types of weld joints ?
198. Explain the following welding processes : Gas welding and Plasma Arc welding
199. What are the defects that can occur in Welding ?
200. What is run out ?
201. What are the differences between turning and phasing ?
202. What are the various metal joining processes ?
203. What is the differences between Brazing and Soldering ?
204. For welding of disimilar metals what kind of electrode is used ?
205. What is punching operation ?
206. What is Drawing ? What are the differences between Rolling & Drawing ?
207. What is the manufacturing process used for Rs 1 coin ?
208. What is the manufacturing process used for bottle shapes in steel ?
209. What is circularity ? What is cylindricity ?
210. What is the mechanism used in CNC machine to turn rotary motion to linear motion ?
211. What is the Air Fuel ratio maintained for Petrol and Diesel engines ?
212. What is the purpose of a spark plug in a petrol engine ?
213. Explain what is meant by turbulence ?
214. What is the difference between stream lined flow and turbulent flow ?
215. What is CRDI principle ?
216. What is the purpose of a turbo-charger ?
217. Explain the basic differences between a turbine and a compressor ?
218. What are the differences between Orthographic & Isometric projections ?

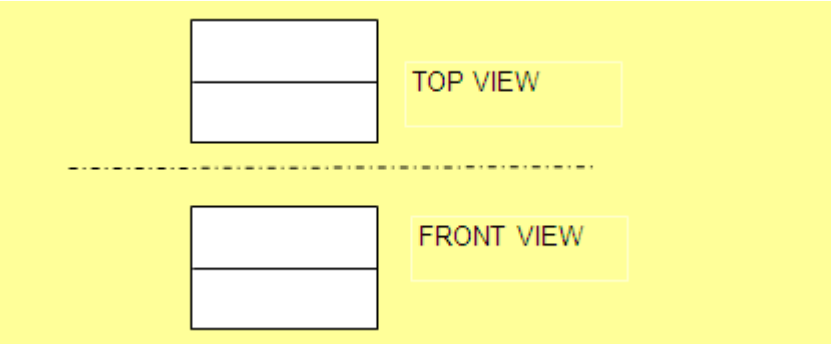
219. What is meant by repeatability and accuracy of a measuring instrument ?
220. What is the difference between accuracy and precision of a measuring instrument ?
221. What is the difference between hot rolling and cold rolling ?
222. What is the difference between Planing & Shaping ?
223. What is scavenging ?
224. State Hooke's law ?
225. What are the operations that can be done in a shaping machine ?
226. What is Gear Hobbing ?
227. What is the basic difference between a Lathe and a milling machine ?
228. How can we test the hardness of a material ?
229. What are the components of a pump ?
230. What is the purpose of an impeller in a pump ?
231. What is Anti lock braking system(ABS) ?
232. What are the factors that influence the efficiency of a pump ?
233. What are the various defects that could occur in a Casting process ?
234. Draw Isometric View



235. Draw Isometric View



236. Draw Isometric view



239. What is an external combustion engine ?

240. What will happen if you replace the injector with the spark plug ?

241. To design an engine what parameters do you choose ?

242. What is the calorific value of a fuel ?

243. Which has a higher calorific value ? Petrol or diesel.

244. What is flexible manufacturing system ?

245. What are the different types of cutting tools ?

246. What is Six Sigma ?

247. What is the need for Six Sigma ?

248. What is Stefan-Boltzman law ?

249. A bottle of water is kept and the temperature is taken initially and after 4 hours. Is it possible to determine the temperature of the surrounding ?

250. What is the difference between a passenger aircraft and cargo aircraft ?

251. What is vibration ? How do you measure vibration ?

252. How would you design a radiator ?

253. What is the difference between a machining center and a milling machine ?
254. What is line balancing ?
255. What is liquefaction ?
256. What is aerofoil ?
257. What is stall speed (of a glider) ?
258. What is co-efficient of drag ?
259. What are the methods to improve the lift (of an aircraft) ?
260. What are the 3 laws of thermodynamics ?
261. How would you explain a cutting tool ?
262. What is evaporative cooling ?
263. What is Carnot's cycle ? Why is it not practically feasible ?
264. Explain the terms entropy & enthapy
265. What are the 3 Newton's laws of physics ?
266. How would you design a brake system for a car ?
267. What is resonance ?
268. What is chamber of an aerofoil ?
269. How does an aircraft work ?
270. What turbine is used in an aircraft ?
271. Why does the helicopter lifts straight away where as an aircraft runs in the runway and then lifts ?
272. What are the differences between a passenger aircraft and a cargo aircraft ?
273. What are the 7 ways to improve productivity through lean manufacturing ?
274. What is PERT analysis ?
275. What is the difference between constant mesh and synchro mesh gear boxes ?
276. Draw the iron carbon diagram of steel
277. How would you design an aircraft ?
278. What is non-sensitivity ?
279. How did Six Sigma derive its name ?
280. What are the different types of turbines that you are aware of ?
281. When you weld 2 metals the properties of the metals change. It is called stress relieving. How would you make up for it ? (Heat Treatment)

282. What is the critical speed of shafts ?
283. Explain mohr's circle ? What does the radius indicate ?
284. What is Fast Fourier Trandform (FFT) ?
285. What is the example of application in vibration ?
286. How does an induction motor work?

(Note: Kindly avoid if some questions are repeated)