

ADICHUNCHANAGIRI UNIVERSITY

MECHANICAL ENGINEERING

(IP/IEM/Auto/ME/ & Other Allied branches)

Discipline Oriented Section - 60 Marks

Answer any 20 questions carrying one mark each. (1x20 = 20 Marks)

1. Name the power that is consumed for suction and exhaust strokes in IC engine.
2. Which is the stroke during the beginning/ending of which the temperature inside the engine cylinder is minimum?
3.is used maintain uniform speed in IC engines.
4. Name the process that is employed in 2-S engines in driving out the exhaust gases.
5. What is the profile of turbine blades?
6. Which component is responsible for the conversion of pressure energy into kinetic energy?
7. What happens to the pressure on the two sides of the moving blades in an impulse turbine?
8. Name the component in reaction turbine, where the pressure of steam decreases.
9. Give an example of tangential flow turbine.
10. Which is the process that is used for ice making and air conditioning
11. Name the law on which principle of refrigeration is based.
12. Which is the cycle on which refrigeration cycle of an ideal refrigerator is based?
13. In SI units, one ton of refrigeration is equivalent to.....kJ/min.
14. What should be a latent heat of vaporisation for good refrigerant?
15. Name the process because of which chips are formed in metal cutting operations.
16. Which lathe is the basic turning lathe?
17. Which operation is used to produce large diameter holes on lathe?
18. What exactly the swing and distance between centres in lathe represents?
19. Mention the name of the process during which the thickness of chip is minimum at the beginning of the cut and reaches to a maximum as the cut ends.
20. How the cutting force varies at the beginning of the cut and when the cut ends during down milling?
21. Name the process in which two or more cutters are used simultaneously during milling.
22. What is the alternative name for grinding?
23. Name any one natural abrasive?

24. What is responsible for glazing of grinding wheel?
25. Name a permanent joining process other than welding.
26. What is the range of temperature of heat of arc during arc welding process?
27. Which is the polarity in arc welding DC current, when the work is connected to positive terminal and the electrode to negative terminal?
28. Which process is carried out in brazed joints to prevent corrosion?
29. Name any one solid lubricant.
30. What is the material of cage used in rolling contact bearings?

Answer any 10 questions carrying two marks each. (2x10 = 20 Marks)

1. Define prime mover.
2. What is impulse turbine?
3. State zeroth law.
4. Define comfort air conditioning.
5. What is spot facing?
6. What is abrasive?
7. Name the different types of flames used in gas welding.
8. Define plastic welding.
9. What is lubricant?
10. What is antifriction bearing?
11. Why jockey pulley is used?
12. What is carburizing?
13. Define ferrous and non-ferrous metals.
14. Define oiliness.
15. What is down milling?

Answer any 5 questions carrying four marks each. (4x5 = 20 Marks)

1. A four-stroke diesel engine has a piston diameter 250 mm and stroke 400 mm. the mean effective pressure is 4 bar and speed is 500 rpm. The diameter of the brake drum is 1000 mm and the effective brake load is 400 Newton. Find indicated power and brake power.
2. How do you classify the turbines?
3. Mention the basic components of refrigeration.

4. Explain briefly any four properties of a good refrigerant.
5. Differentiate between Otto cycle engine and diesel cycle engine.
6. Compare VCR and VAR systems.
7. Differentiate between counterboring and countersinking.
8. Explain centerless grinding.
9. Compare soldering and brazing.
10. Write a short note on lubricants.