

Assignment II
Trade- FITTER

TRADE THEORY

1. What is measurement?
2. What is meant by F.P.S., C.G.S., & M.K.S.?
3. What are uses of the following tools –
 - (a) Outside Callipers
 - (b) Hermaphrodite/Jenny
4. What is Marking and Marking Media?
5. What are the uses of scriber?
6. How many types of punches are there? Where they used?
7. Which metal is used for marking Surface Plate?
8. What is the use of Angle Plate?
9. What are the uses of Surface Plate?
10. What is the use of Trammel?
11. What is a 'V' Block?
12. What is the use of Chisel?
13. What is the use of File? What are main parts of a File?
14. What is the use of a Rasp File?
15. What is a Scraper? How many types of Scrapers are used for making a Job?
16. Which metal is used to make hacksaw blades?
17. What is meant by teeth-setting? How many types of teeth-setting methods are there?
18. What precautions should be observed while using a hacksaw blade?
19. What is drill? Which metal is used to make drill?
20. What are the causes of over sizing of a hole?
21. How threads are cut by a tap?
22. How drill size is determined for a tap?
23. What is the use of a Tap Handle?
24. What precautions should be observed while using Tap?
25. How broken tap is taken out from the job?
26. What is meant by a die? How many types of dies are used?
27. What is the use of a die handle?
28. What is the process of threads cutting by a die?
29. What is a STUD-EXTRACTOR?
30. What are the main parts of a hammer?
31. What are the uses of –
 - (a) A Ball-Pan Hammer?
 - (b) A Double Face/ Sledge Hammer?
 - (c) A Claw-Hammer?
32. What is power Hammer?
33. What is the use of a VICE? Which metal is used for making a Vice?
34. What are the main parts of a vice?
35. What is –
 - (a) A Quick Release Vice?
 - (b) A Machine Vice?
 - (c) A Leg Vice?
 - (d) Carpenter Vice?
 - (e) A Hand Vice?
 - (f) A Pin Vice?
36. What are Vice packing clamps?
37. What is a "C" clamps? What are the main parts of a "C" clamp?
38. What is a Micrometer?
39. What is the least count of a Vernier Micrometer?
40. What are the main parts of Outside Micrometer?
41. What is the purpose of Lock-nut in a Micrometer?
42. What is the measurement limit of an Inside micrometer?
43. What is the least count of metric Vernier Calliper?
44. What are the main parts of Vernier Calliper?
45. What is Depth-Micrometer? What are the main parts of Depth Micrometer?
46. What is difference between Bench fitter and Pipe fitter?

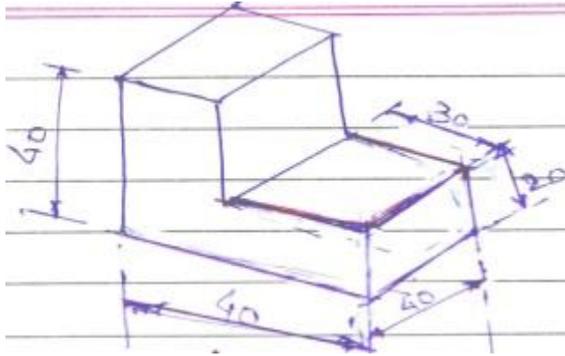
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47. Describe the safety rules for Grinding Machine?
 48. What is First Aid Box? Which items are kept in First Aid Box?
 49. What is steel rule?
 50. Draw a neat diagram of spring callipers.
 51. Describe the work of Inside spring callipers with a diagram.
 52. Write a note on Jenny callipers.
 53. With a suitable diagram describe a short note on Try square.
 54. What is difference between Bench vice and Machine vice?
 55. Draw a diagram of Hook spanner and Triangular spanner.
 56. Draw a diagram of adjustable hacksaw with blade fitted.
 57. Describe twist drill with a neat diagram with its parts and their works.
 58. Draw a line diagram of a radial drilling machine. Describe about its parts.
 59. Write down the difference between –
 - (a) Drilling and Boring
 - (b) Counter sinking and spot facing
 - (c) Reamer and Tap.
 60. Compare the properties of ferrous metals and non-ferrous metals.
 61. Clarify these metal properties- “Hardness and Toughness”.
 62. What is Iron ore? How many kinds are there?
 63. What is blast furnace and what does it work?
 64. What is the difference between –
 - (a) Cast Iron and Wrought Iron
 - (b) Mild Steel and Cast Iron
 65. Write about the –
 - (a) Low Carbon Steel
 - (b) Medium Carbon Steel
 - (c) High carbon steel
 66. Write down the Alloying Elements of steel.
 67. Describe briefly High carbon steel & High speed steel.
 68. What is difference between Ferrous and Non-Ferrous metals?
 69. Write down the properties of Copper.
 70. What is Zinc? What are its properties and uses?
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ENGINEERING DRAWING

1. Draw a free hand sketch of the following –
 - (a) Outside Micrometer.
 - (b) Sectional View of Bench Vice.
 - (c) Ball pin hammer with its handle.
2. Draw a diagram of ‘T’ square and project its parts and name properly.
3. Draw a Vernier Calliper and its parts.
4. Draw an equilateral triangle of which each arm is of 60mm.
5. Draw a pentagon of 40mm arms.
6. Draw an ellipse which major axis is 60mm and minor axis is 30mm. Draw it by concentric circle method.
7. What is the Softest Pencils name?
8. Which Instrument is used to draw a circle?
9. What is dimensions line?
10. What is polygon? Draw a polygon of your own choice of measurement.
11. Write down the works of various drawing instruments –
 - (a) Drawing Board
 - (b) Set Square
 - (c) Divider
 - (d) French Curve
 - (e) Mini Drafter
12. Draw an orthographic Projection (Front, Top and Side) given object in 3rd angle Projection.

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(Not to scale. All dimensions are in mm)

13. Draw an Isometric view of a cube having 20mm each side.
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WORKSHOP CALCULATION AND SCIENCE

1. If $(x + y) = 5$ and $xy = 4$, then find the value of $(x^2 + y^2)$?
2. If $2x + 3y = 8$, $x + 2y = 5$, then find the values of x and y ?
3. A man sold 9 tables and 7 chairs for Rs. 11320 and 6 tables and 13 chairs to another person for 12130. What was the price for each?
4. A rectangular sheet of metal measures 8cm by 6cm. Four quadrants of circles each of radius 2cm are cut away at corners. Find the area of remaining portion?
5. If $\frac{\sin\theta}{\cos\theta} + \frac{\cos\theta}{\sin\theta} = 2$, then find the value of θ ?
6. If $x = 45^\circ$ and $y = 15^\circ$, then find the value of $\cos x + \cos y$
7. Prove that $\frac{1 - \cos 2\theta}{1 + \cos 2\theta} = \tan^2 \theta$
8. Write the difference between AC and DC?
9. Write about –
 - (a) Insulator
 - (b) Conductor
 - (c) Semi – Conductor
 - (d) Electromotive Force
10. Frequency Define ohm's Law.
11. If a parallel circuit of electricity has three resistance of value 8Ω , 5Ω and 3Ω . Calculate the total resistance of the circuit?
12. What is temperature? Describe different scales of temperature. Write the relation between them.
13. What are pyrometers? Name two types of pyrometers.
14. Define mechanical advantage, velocity ratio and efficiency of machine.
15. Explain lever and principle of lever. State different classes of levers with their applications.
16. Construct a parallel line with respect to the line segment of length 8cm and write the step of construction.
17. Draw a line segment of length $AC = 8.2\text{cm}$ and divide it in the ratio 7:2. Measure the two parts.
18. What is young's modules? Draw a simple stress, strain diagram and explain ultimate stress, breaking stress and yield point.
19. A steel wire 3mm diameter is loaded in tension with a weight of 50kg. Find out the stress developed.
20. Define the relation between angular velocity, frequency and time period in circular motion of an object.
21. Give the difference between centripetal and centrifugal forces.

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22. What do you understand by estimation and explain the objective of estimation?
23. Describe the total annual cost in brief.
24. Find graphically the vertices of the triangle whose sides have the equation. $2y - x = 8$, $5y - x = 14$ and $y - 2x = 1$.
25. Find the mean, median and mode of the following data –

Class Interval	0 -50	50 -100	100-150	150-200	200-250	250-300	300-350
Frequency	2	3	5	6	5	3	1

26. What is meant by friction? What are its advantages and disadvantage?
27. Write the short note on the following terms –
 - (a) Magnetic flux
 - (b) Magnetic flux density
 - (c) Magnetomotive force
 - (d) Permeability
 - (e) Reluctivity
28. Classify the magnetic materials.
29. A force of 50N is required to move a mass of 40kg on a flat surface, horizontally, at a constant velocity. Find the coefficient of friction.
30. What is sampling? What are the advantages and disadvantages of sampling?

EMPLOYABILITY SKILLS

1. What is noun? Explain the types of noun with suitable examples.
2. What is the importance of preposition? Describe the use of any five prepositions.
3. Mention the point to be considered in writing a C.V. / Bio-Data.
4. What is computer? Describe the function of CPU.
5. Explain the various types of output devices with suitable example.
6. Describe the basic functions of an operating system.
7. How to create a file and folder?
8. What are the main features of Ms. Word?
9. What is worksheet? Briefly explain the step for printing simple excel sheet.
10. What is internet? Explain the advantages and disadvantages of Internet.
11. Define types of networking with suitable example.
12. What is communication? Explain.
13. Briefly examine the barrier of communication and how to overcome it?
14. What do you understand by attitude?
15. Explain entrepreneurship.
16. Describe consumer- behaviour.
17. Briefly explain the method of Marketing?
18. Explain SWOT Analysis.
19. Give the reason for the need of employment
20. What is SSI? Describe the objective of SSI.
21. What is PMRY? Explain the objectives and eligibility criteria of it.
22. What is GDP? What are the features affecting GDP?
23. Explain productivity. Describe the factors affecting productivity.
24. What do you mean by pollution? Explain the types of pollution.
25. List down the basic rules for safety to prevent an accident in workplace.