DNSI No.

Recruitment Questionnaire – 2025

Name : VAIBHAV MK

Branch : EEE

Contact No. : 8277922746

Time : 1 hr.

Date : 19/02/2025

College : Bangalore Institute of Tech

E-Mail : vaibhavmk2003@gmail.com

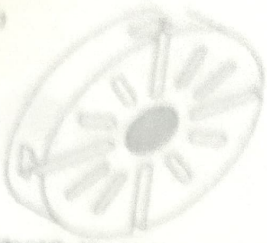
Marks : Total : 80 Marks (1 Mark each)

PLEASE ANSWER THE QUESTIONS IN FEW AND PRECISE WORDS

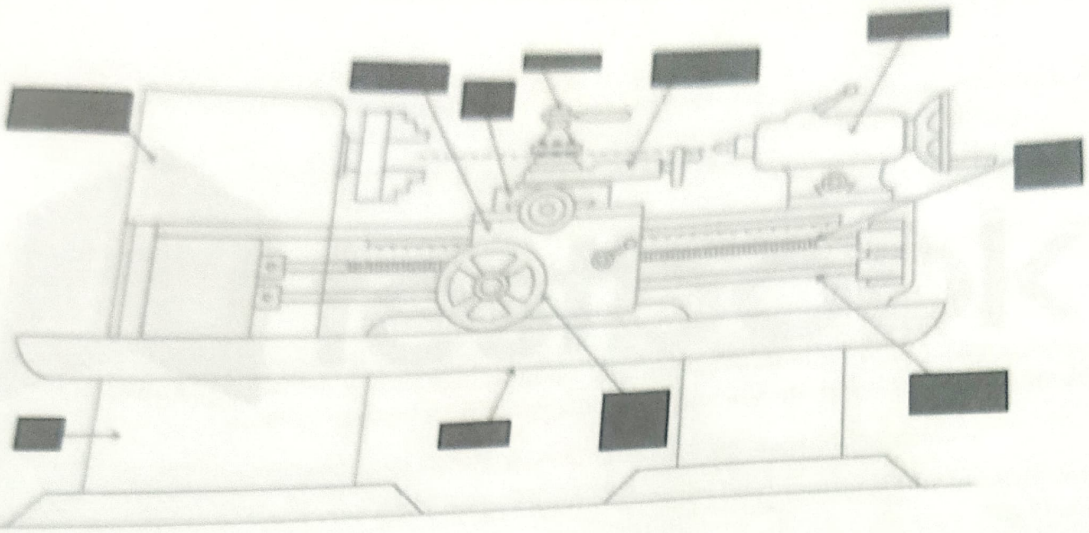
APTITUDE TEST:

1. Tell me about yourself?
   Myself Vaibhav, I am from Bangalore Institute of Techno - logy.
2. Why you choose your branch of engineering.
   I have interested on Electronics topics
3. Why should we hire you?
4. What are your short term and long term goals?
5. Tell us more about your projects and internship?
   I have done project on 'Self Balancing Robot' & 'Solar PV Array under partial shading conditions'.
6. What are your biggest achievements in your college?
   I have played district level cricket.
7. What are your strengths & weaknesses?
   Strength as i will learn quickly
8. What Are Your Hobbies?
   Hobbies are to play cricket, Football
9. How Do You Handle Stress and Pressure
10. Are you willing to relocate or travel?
11. Why Are You Interested in this Job?
12. Where do you see yourself in 5 years?
13. You're working on a team project, and a disagreement arises with a teammate's approach. How would you handle it?

I am doing my intern in 'TATA Advanced systems' under project RADAR.



34) Identify the below machine & name the related assemblies shown in BLANK



ELECTRICAL TEST

35) What is the standard voltage & frequency of 3 ph. supply in India.?

36) What is the Formula to calculate speed of induction Motor.?

37) Write full wave bridge rectifier circuit.

38) Which device will be used to remove the AC ripples after converting AC to DC?

39) Calculate the current drawn by a DC24V relay having coil resistance of 600 Ohms?

40) Write circuit diagram to run 3 Phase induction motor with Star/Delta change over using Contactor

41) Why is Star/Delta Changeover used while running high Power Induction Motors.?

42) Write the full form below devices.
a) MCB b) MPCB c) SMPS d) IGBT d) ELCB

43) Explain the term **Power factor** of AC circuit.

44) Why Transformers are used in AC circuit

45) What is the difference between Auto Transformer and Isolation Transformer? explain briefly

46) Write below numbers in BCD format (Binary coded decimal)
a) 93
b) 78

47) Write below numbers in Binary format.
a) 38
c) 63

48) What is Maximum Rapid rate (speed in Meters/Minute unit) that can be achieved of an axis slide connected with 3000 RPM Servo motor and a ball screw with 12 Millimeter Pitch.

49) Calculate the time required to reach 60 meters / Minute speed of a servo axis to achieve **gravitation acceleration (1 g.)**

50) Find the effective resistance between diagonal points of a rectangle whose length and width represents the resistance of 24 & 8 ohms respectively.

51) Why is capacitor used in a ceiling Fan?

52) Write a circuit to control a conveyor with 3 Ph. Induction motor manually by using 3 Push switches with NO/NC contacts (Forward, Reverse & Stop) and Contactors with below conditions.
a) Conveyor should run continuously in forward direction after pressing Forward push Switch (Contactor should be latched)
b) Conveyor should stop after pressing STOP Push Switch.
c) Conveyor should rotate in reverse direction while pressing reverse Push Switch (Contactor should not latch). **Note**: Motor is rated 415 V 3 Ph.50Hz. & Contactor coil operated by 230V AC

53) What will be output DC voltage when AC200 V 3ph, supply is converted into DC.

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54) Explain Synchronous speed & Slip speed of Induction Motor?

55) Which Instrument is used to measure the Insulation resistance of an Induction Motor.

56) What is difference between the functions of a MCB and OLR.

57) Which device will be used to Improve the Power factor in case Power factor observed more lagging.?

58) What is formula to calculate the 3 ph. Power?

59) When 2 switches connected in parallel. It represents AND gate. TRUE /FALSE

60) Calculate the Synchronous speed of a Motor having 2 poles and working at 220V PH 60 Hz Supply.

61) What is the value of Power factor in a pure Resistive load circuit.

62) What is the device used to regulate the DC output voltage of rectifier.

63) Calculate the Total Cross section area of a Flexible copper cable having 26 strands, and each strand diameter is 0.7millimeter.

64) When temperature of a Conductor Increases, resistance of conductor----------.