

Model Paper for SST- Tech (Male)

Total Marks : 100

Time: 3 Hours

- 1. Work Shop Practice**
- 2. Drawing**

Q: No. 1. Compulsory

25 Marks

1. Identify the pair which has same dimensions
 - a. Force & power
 - b. **Energy and work**
 - c. Momentum and energy
 - d. Impulse and momentum
2. Newton's first law of motion gives the concept of
 - a. Work
 - b. Force
 - c. Inertia
 - d. **Energy**
3. Impulse gives a measure of the produce
 - a. Force and displacement
 - b. Force and time
 - c. **Force and velocity**
4. According to equilibrium law, two force can be equilibrium only if they are
 - a. equal in magnitude
 - b. opposite in direction
 - c. **collinear in action**
5. The kinetic energy of a body is stated to increase by 300 percent. The corresponding increase in momentum of the body will be
 - a. 50
 - b. **100**
 - c. 200
 - d. 300 percent
6. The apparent weight of a man in a lift is less then the real weight when the left is going down.
 - a. Freely
 - b. under the force of gravity
 - c. with some constant velocity
 - d. **with some acceleration**
7. When a body executes simple harmonic motion, there is always a constant ratio between the displacement of mass and its
 - a. Frequency
 - b. Velocity
 - c. time period
 - d. **acceleration**
8. Periodic time of a particle moving with simple harmonic motion is the time taken by the particle for
 - a. quarter oscillation
 - b. half oscillation

- c. **complete oscillation**
 - d. two oscillations
9. The length of a seconds pendulum is
- a. 56.3cm
 - b. 74.8cm
 - c. **99.4cm**
 - d. 112.5 cm
10. The MOI of a body does not depend upon
- a. shape of the body
 - b. mass of the body and its distribution within the body
 - c. axis of rotation of the body
 - d. **angular velocity of the body**
11. The force of friction between two bodies in contact is
- a. function of the relative velocity between them
 - b. always normal to the surface of contact
 - c. **never shown in the free body diagram of the system of these two bodies**
 - d. dependent on the areas of contact
12. Which one of the following surfaces in contact has minimum coefficient of friction
- a. wood on wood
 - b. **steel on steel**
 - c. rubber tyre on dry concrete
 - d. rubber tyre on wet concrete
13. The deformation per unit length in the direction of load is called
- a. lateral strain
 - b. **shear strain**
 - c. linear or longitudinal strain
 - d. volumetric strain
14. Modulus of elasticity is defined as the ratio of
- a. axial stress to lateral strain
 - b. **axial stress to axial strain**
 - c. lateral strain to longitudinal strain
 - d. axial stress to volumetric strain
15. Which amongst the following substances, is most elastic?
- a. Brass
 - b. Glass
 - c. Rubber
 - d. **Steel**
16. Young's modulus of elasticity for a perfectly rigid body is
- a. Zero
 - b. **Unity**
 - c. Infinity
 - d. some finite non-zero constant
17. Which of the following is a dimensional quantity?
- a. shear stress
 - b. bulk modulus

- c. **Poisson's ratio**
 - d. Strain
18. Percentage elongation during tensile test is indicative of
- a. Ductility
 - b. Malleability
 - c. Creep
 - d. **fatigue strength**
19. Toughness of a material signifies
- a. **strength**
 - b. softening
 - c. brittleness
 - d. fatigue resistance
20. Stiffness of a material is expressed in terms of
- a. mass density
 - b. **hardness number**
 - c. modulus of elasticity
 - d. impact strength
21. The tendency of a material to fracture without appreciable of deformation is called
- a. Toughness
 - b. Stiffness
 - c. Plasticity
 - d. **Brittleness**
22. Lack of toughness in a material implies
- a. **Brittleness**
 - b. Plasticity
 - c. Malleability
 - d. creep strength
23. The statement stress is proportional to strain, i.e., the Hook's law hold goods upto
- a. elastic limit
 - b. **proportional limit**
 - c. upper yield point
 - d. lower yield point
24. The point on the stress-strain curve at which the cross-sectional area of the test specimen starts decreasing is called the
- a. elastic limit
 - b. **proportional limit**
 - c. upper yield point
 - d. ultimate stress point
25. Percentage elongation during tensile test is indicative of
- a. Creep

- b. Malleability
- c. **Ductility**
- d. elasticity of the metal

Part – B

Attempt any 3 Questions. Each Question carry 15 marks

Work Shop Practice

- a. Electrical shop
- b. Metal shop
- c. Welding shop
- d. Wood Work shop

Short Questions

- Q-1. a. Explain Cable and its types
b. Differentiate between conductor and insulator
c. Explain earthing system
- Q.2 a. Differentiate between series and parallel circuit
b. What is ohm law?
c. What is resistance, capacitance and inductance
- Q. 3 a. Define the following
Welding. Soldering. Brazing. Forging
b. Describe Arc welding electrodes types.
c. Briefly explain the gas welding gases
- Q. 4. a. General safety precautions in wood work shop.
b. Differentiate between hammer and mallet
c. Briefly classify wood types
- Q. 5. a. What are the cutting tool types and cutting tool materials?
b. Purpose of using of cutting fluids ?
c. Differentiate between natural and manufactured abrasive

Part- C

DRAWING

Attempt any 2 Questions

- Q.1 a. Which instruments are used mainly in drawing.
b. Describe classification of lines.
c. Briefly explain the use of T- Square and Set Square
- Q.2. a. Brief note on procedure of dimensioning
b. Briefly describe ISO system of fits
c. What are the different types of fit.
- Q. 3 a. Write note on tolerance

b. Discuss permissible deviation of measurements

c. Briefly describe surface condition and symbols.

Recommended Books

- 1. Technical Drawing. By G. Schiblee and Sheraz Ali**
- 2. Work Shop practice By NISTE Islam abad**
- 3. Manual on Work Shop practice 1 & 2 By S & T E, ministry of Education. Islamabad**
- 4. Basic engineering Drawing & CAD By NISTE**

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