

Winmeen Tnpsc Group 1 & 2 Study Materials

Tnpsc Group 2 Complete Syllabus : <https://goo.gl/fNSnMN>

Tnpsc Group 2 Previous Questions : <https://goo.gl/PYqsd7>

Tnpsc Group 2 Model Questions : <https://goo.gl/xQvyTk>

11. Work, Power and Energy

1. What is work?

Work is said to be done, when a force acts on a body and the point of application of the force is displaced in the direction of force.

2. Which results in acceleration?

When a force acts on a body at rest, it results in acceleration, which in turn results in velocity and displacement. In the definition of work, however, we are merely concerned about the resultant displacement and not the rate at which the displacement happens (velocity).

3. What is weight of object?

The weight of an object is the force of gravity acting on the object. When the object is lifted up from the ground to a point above, then work is said to be done against the force of gravity.

4. How is work measured?

Work (W) is measured as the product of the force (F) and the displacement (S) in the direction of the force. $W = F \times S$

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5. What is SI unit of work?

The SI unit for measuring the quantity of work done is the joule

6. How is joule considered?

One joule of work is said to be done when a force of one newton acting on a body displaces it by one metre.

7. What is power?

Power (P) is defined as 'the rate of doing work'. It can also be defined as 'the work done per unit time'.

8. How is power calculated?

Power (P) is calculated by dividing the work done (W) by the time taken (t) to do that work.

Power = work/time

9. What is SI unit of power?

The SI unit for measuring power is Watt. Power is said to be one watt when one joule of work is done in one second

10. What is energy?

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Energy is defined as the capacity to do work.

11. What is SI unit of energy?

The SI unit for measuring energy is the same as that of measuring work, which is the joule.

12. Name some forms of energy?

Some important forms of energy are: chemical energy, light energy, heat energy, electrical energy, nuclear energy, sound energy and mechanical energy.

13. How do objects get energy?

(i) Energy in some other form is converted and added to the energy that the object already possesses. Energy can never be created.

(ii) Work is done.

14. What is law of conservation of energy?

‘Energy can neither be created nor destroyed; it can only be changed from one form to another.’

15. What is isolated system?

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When there are no influencing factors on the system from the surroundings, then we call it an isolated system or a closed system.

16. What is mechanical energy?

When a work is done on an object, then the object gains energy. The energy acquired by objects upon which work is done is known as mechanical energy.

17. What will be the result of work done on an object?

When work is done on an object, then it can result in one of the following:

- (i) Increase in speed. (Kinetic Energy)
- (ii) Increase in height or state of strain. (Potential Energy)

18. What is kinetic energy?

Energy possessed by an object due to its motion (or velocity) is called kinetic energy

19. What is the formula for kinetic energy?

Kinetic energy can be calculated using the formula $KE = \frac{1}{2} mv^2$ where 'm' is the mass of the moving body and 'v' is its velocity.

20. What is potential energy?

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The energy possessed by a body by virtue of its position or due to a state of strain, is called potential energy.

