

Step Academy official

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STUDENT NAME	
PAPER CODE	54642
TIME ALLOWED	60
Paper Date	07-02-2026



CLASS	New 1st Year (FSC/ICS)
SUBJECT	Physics
TOTAL MARKS	25
Paper Type	

Q1. Choose the correct answer.

5X1=5

1. Which of the following is a path function?

(A) work (B) Internal energy (C) Temperature (D) Enthalpy

2. Boyle's law is applicable to:

(A) Isobaric process (B) Isochoric process (C) Isothermal process (D) Adiabatic process

3. Which of the following parameter is kept constant in order to compare two specific heats of a thermodynamic system?

(A) Work (B) Pressure (C) Internal energy (D) Volume

4. The temperature scale which is independent of nature of substance is:

(A) Thermodynamic scale (B) Centigrade scale (C) Fahrenheit scale (D) Rankine scale

5. Solid ice, liquid water and water vapours consist in thermal equilibrium at a temperature:

(A) 273k (B) 273.16k (C) 273°C (D) 100°C

Q2. Write short answers of the following questions.

5X2=10

1. Is it possible to convert internal energy into mechanical energy? Explain with an example.

2. Give two examples of adiabatic process.

3. Explain briefly heat death of universe in terms of entropy.

4. A system absorb 200 j heat at an absolute temperature 200k. Calculate the change in entropy.

5. Show that area under P-V graph is equal to work done.

Q3. Write detailed answers of the following questions.

2X5=10

1. What is the significance of second law of thermodynamics?

2.

Calculate the entropy change when 1.0 moles of ice at 0°C melts from liquid water at the same temperature. (Heat of fusion of ice per mole= 6.01×10^3 j).