

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).