2025 IPC Answer Booklet (online)

Name： _____ **School：** _____ **Account Number：** _____

Section A：Multiple choice questions. (10 marks)

Please record your answers from **1** to **10** on the exam platform.

Section B: Short Answer Questions (10 marks)

Question 11 (5 marks)

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Question 12 (5 marks)

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Section C: Extended Numerical Questions (30 marks)

Question 13

a) (1 mark)

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b) (2 marks)

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c) (3 marks)

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d) (2 marks)

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e) (4 marks)

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f) (3 marks)

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Question 14

a) (3 marks)

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b) (3 marks)

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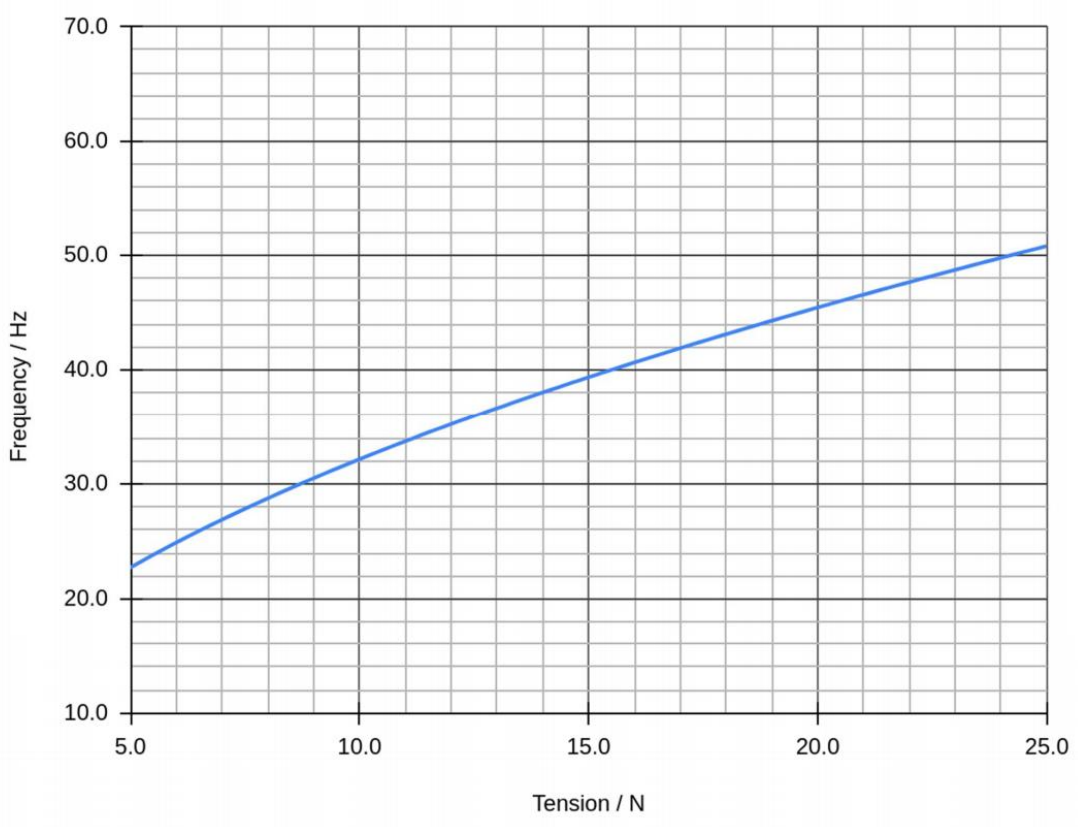
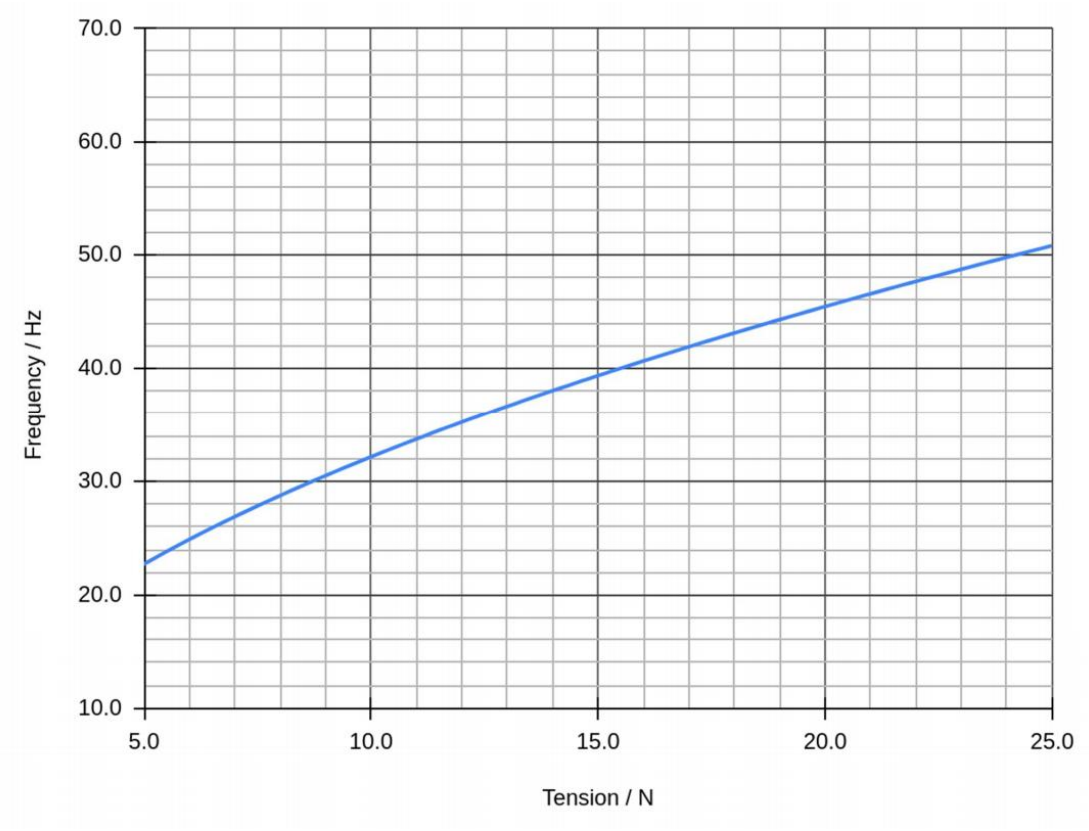
c) (3 marks)



d) (3 marks)



e) (3 marks)

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Useful Equations

The following useful equation may be unfamiliar to some students:

$\rho = {}^{m}/_{V}$	density = mass ÷ volume
$\Delta p = \rho \times g \times \Delta h$	pressure due to a column of fluid = density of fluid x gravitational field strength x height of column
$\Delta E = m \times L$	thermal energy for a change of state = mass x specific latent heat
$\Delta E = m \times c \times \Delta\theta$	change in thermal energy = mass x specific heat capacity x change in temperature
$P = I^2 \times R$	Power dissipated in a resistor = current ^{2} x resistance
$E_e = \frac{1}{2} \times F \times e$	Elastic potential energy = ½ x Force x extension
$E_e = \frac{1}{2} \times k \times e^2$	Elastic potential energy = ½ x spring constant x extension^2

The following constants should be used

$\mathrm{g} = 9.8\,\mathrm{N/kg}$	gravitational field strength on Earth

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