(Answer all the questions)

1. **Consider the following frequency distribution table for the following questions.**

Class	43-47	48-52	53-57	58-62	63-67
Frequency	12	9	6	15	8

    (i) Sketch the cumulative frequency polygon. Hence, locate the D_3 and Q_1. **[4]**

    (ii) Find the median and mean deviation from the median. **[5]**

    (iii) Find the geometric mean. **[3]**

2. Estimate the first four raw moments about $A = 50$; convert them to the central **[8]** moments. Also, find the co-efficient of skewness and kurtosis. Make comments about the distribution.

$$m_2 = m_2' - m_1'^2;$$
$$m_3 = m_3' - 3m_2'm_1' + 2m_1'^3;$$
$$m_4 = m_4' - 4m_3'm_1' + 6m_2'm_1'^2 - 3m_1'^4$$