UNIVERSITI TEKNOLOGI MARA
ASSESSMENT 1
(INDIVIDUAL ASSIGNMENT)

COURSE	:	**INTRODUCTION TO STATISTICS**
COURSE CODE	:	**QMT181/STA104**
DATE	:	**20TH MAY 2022**
TIME	:	**9.00 – 11.00 AM (120 MINUTES)**

ANSWER SCHEME

(PLEASE CHECK THE SOLUTIONS BEFORE BEGIN MARKING)

<table>
<tr><th>QUESTION</th><th>SOLUTION</th><th>MARKS</th></tr>
<tr><td>1.</td><td>a) Ratio √√

b) Ordinal √√

c) Ordinal √√

d) Interval √√

e) Nominal √√</td><td>5 marks</td></tr>
<tr><td>2. (a)</td><td>All 3500 households in City X. √√</td><td>1 mark</td></tr>
<tr><td>(b)</td><td>Cluster Sampling. √√

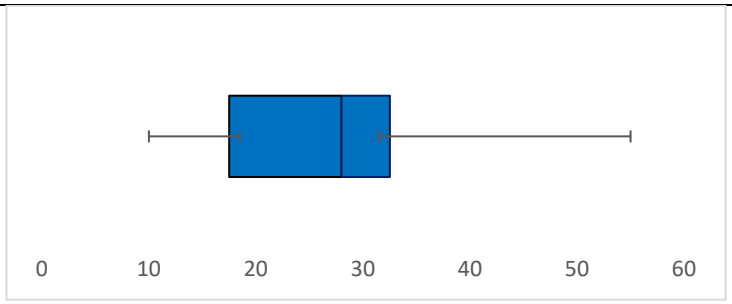
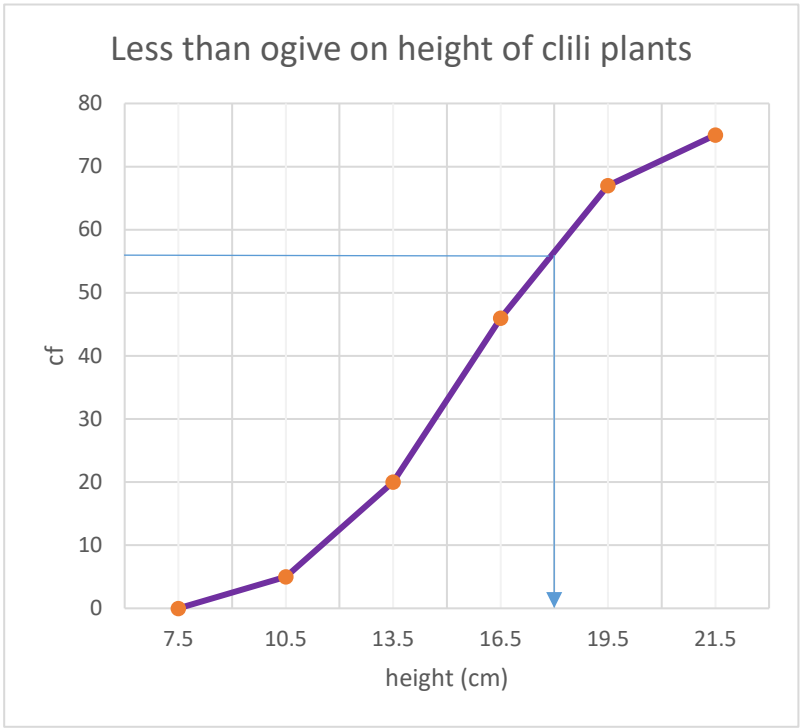
Step 1: Find the interval $i = \frac{N}{n} = \frac{14}{2} = 7$. √√
Step 2: Find a number m, between 1 and 7 by using SRS (m=6) √√
Step 3: Then, our sample becomes 6 (Section 6) and 13 (Section 13). √√</td><td>4 marks</td></tr>
<tr><td>(c)</td><td>Variable: The average income of fresh graduates in City X monthly. √√

Type: Quantitative continuous √√

Scale of Measurement: Ratio √√</td><td>3 marks</td></tr>
<tr><td>(d)</td><td>Sampling frame: List names of each 14 sections in City X. √√</td><td>1 mark</td></tr>
<tr><td>(e)</td><td>Telephone interview/ face to face interview. √√</td><td>1 mark</td></tr>
<tr><td>3.</td><td>√√ √√
<table><tr><th rowspan="2">Teaching method</th><th colspan="3">Grade performance</th><th></th></tr><tr><td>High</td><td>Average</td><td>Low</td><th>Total</th></tr><tr><td>Traditional</td><td>180 √</td><td>108 √</td><td>72 √</td><td>360</td></tr><tr><td>Online</td><td>85 √</td><td>136 √</td><td>119 √</td><td>340</td></tr><tr><td>Total</td><td>265</td><td>244</td><td>191</td><td>700</td></tr></table></td><td>5 marks</td></tr>
<tr><td>4. (a)</td><td>Position of Q1 = $\frac{14+1}{4} = 3.75$ √√
Q1 = 16 + (18 – 16)(0.75) = 17.5 √√

Position of Q2 = $\frac{14+1}{2} = 7.5$ √√
Q2 = 27 + (29 – 27)(0.5) = 28 √√

Position of Q3 = $\frac{3(14+1)}{4} = 11.25$ √√
Q3 = 32 + (34 – 32)(0.25) = 32.5 √√</td><td>6 marks</td></tr>
</table>

(b)	 Min & Max √√ Q1, Q2 & Q3 √√√ Shape √ Negatively skewed. √√	3 marks 1 mark
5. (a)	√ $\bar{x} = \frac{1161}{75} = 15.48$ √√ √ √ √ √ √ $s = \sqrt{\frac{1}{75-1}\left[18747 - \frac{(1161)^2}{75}\right]} = 3.2356$√√	2 marks 3 marks
(b)	 Title √	3 marks

	x-axis & y-axis √√ Points √√ Shape √	
(c)	$\frac{75}{100} \times 75 = 56.25$ √√ (line in graph) X = 18 √√	2 marks