LCCI Level 3 in Business Statistics February 2025

Qu 1	MRQ Which of the following are factors involved in the design of questionnaires for data collection?	
A	The type of respondent	✔
B	The resources available	✔
C	The age profile of the respondents	
D	The method of data presentation	

Qu 2	MCQ The following information shows the absenteeism records of a company's employees. Days off work / Number of employees: Less than 2 days: 45 2 to 5 days: 89 6 to 9 days: 40 10 to 13 days: 25 14 to 21 days: 5 22 to 29 days: 2 When plotted as a histogram, what general shape would you observe?	
A	Right-skewed	✔
B	Left-skewed	
C	Symmetrical	
D	Systematic	

Qu 3	INSERT VALUE The table below shows the daily number of sales made by a sales force of a bicycle store. Number of sales / Frequency 2 / 3 3 / 7 4 / 9 5 / 6 6 / 5 7 / 2 8 / 1 Calculate the mean number of sales made per day by the sales force. (Give your answer to one decimal place.)	
A	4.4	✔
B	4.7	
C	4.1	
D	4.5	

Qu 4	INSERT VALUE The table below shows the daily number of sales made by a sales force of a mobile phone store. Number of sales / Frequency 2 / 7 3 / 8

	4 | 12 5 | 11 6 | 12 7 | 9 8 | 2 Calculate the median number of sales made per day by the sales force.	
A	5	✔

Qu 5	INSERT VALUE The price of an apartment in a small town has fallen from £130000 in 2017 to £95000 in 2022. What has been the real drop in price if the retail price index has changed from 101.9 in 2017 to 138.5 in 2022? (Give your answer to the nearest pound.)	
A	£60105	

Qu 6	INSERT VALUE A manufacturing company believes there is an association between production volume and production cost. The data relating to total cost of production for different production volumes is shown below.	

Units produced	1	2	3	4	5	6

	(000s)						
	Production costs ($000s)	5.0	10.5	15.5	25.0	16.0	22.5
	Calculate Spearman's rank coefficient for this data. (Give your answer correct to 2 decimal places.						
A	0.83						✔

Qu 7	MCQ If the value of Pearson's correlation coefficient is 0.8, what is the value of the coefficient of determination?	
A	0.64	✔
B	0.8	
C	80	
D	6.4	

Qu 8	MCQ If the coefficient, b, in the linear regression model is zero, what will be the coefficient between two variables?	
A	0	✔
B	+1	
C	-1	
D	Larger than 1	
Qu 9	INSERT VALUE The seasonal difference for time period 1 of a time series analysis is 25.5. The next period 1 has a value of 185. What will be the seasonally adjusted value for this period?	

A	159.5	

Qu 10	MCQ The sales of shirts for a clothing shop are listed below for a period of a week. Date / Shirt sales Monday 12th: 28 Tuesday 13th: 16 Wednesday 14th: 24 Thursday 15th: 44 Friday 16th: 65 Saturday 17th: 82 Sunday 18th: 30 Monday 19th: 33 Tuesday 20th: 21 Wednesday 21st: 29 Thursday 22nd: 49 Friday 23rd: 70 Using a, calculate the 7-day centred moving average sales for the Tuesday 20th.	
A	44.9	✔
B	42.7	
C	44.1	
D	42.0	
Qu 11	MCQ In a two-tailed test of 5% confidence interval, what is the area in each tail?	
A	2.5%	✔
B	5%	

C	25%	
D	10%	

Qu 12	MCQ Which of the following statements is true about the chi-square test of association?	
A	All the expected values must be at least 5	✔
B	The table must contain percentages	
C	The expected values must all be the same	
D	The expected values must be integers	

Qu13	MCQ A manufacturer produces computer components but 10% of its components is found to be faulty. The components are packed in boxes of 20. Assuming a binomial distribution, what would be the variance in the number of faulty units in each box?	
A	1.8	✔
B	2.0	
C	1.3	
D	1.5	

Qu 14	MRQ Which of the following statements is true about the normal distribution?	
A	The curve is continuous	✔

B	The mean, median and mode must be the same	✔
C	The curve is symmetrical about the median value	
D	The area under the curve is equal to more than 1	

Qu 15	INSERT VALUE Calculate the standard deviation for the following data: 34.5 | 25.7 | 20.1 | 38.9 | 33.0 | 33.2 | 22.8 | 30.5 (Give your answer correct to 2 decimal places.)	
A	5.99	✔

Qu 16	MCQ There are 100 students studying at a new online college. 36 are male and are studying business, 9 are male and not studying business, 42 are female and studying business, 13 are female and not studying business. What is the probability of picking one student at random who is studying business?	
A	0.45	✔
B	0.55	
C	0.78	
D	0.36	

Qu 17	INSERT VALUE A car repair business keeps records of the number of service enquiries received each day, along with the probability of them becoming firm bookings. If the daily demand is 5 enquires, it is found that the probability is 0.3 but if the daily demand is 6 enquires, it is found that the probability becomes 0.7. Calculate the probability of exactly 12 enquiries over a two day period.	
A	0.49	✔

Qu 18	MCQ A company finds the following data about the number of support calls each day over the last 64 days. What is the standard deviation for this data?	
A	13.08	✔
B	12.66	
C	10.83	
D	11.92	

Number of calls	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70+
Frequency	0	5	10	20	15	10	4	0

Qu 19	MRQ Which of the following are characteristics of the use of moving averages?	
A	Different numbers of time periods in moving averages will often lead to different forecasts.	✔
B	The greater the number of time periods in a moving average, the greater the smoothing effect.	✔
C	If the underlying trend of the past data is seen to be constant, a large number of periods should be selected.	
D	The use of unadjusted mobbing averages as a forecast is accurate when there is a seasonal variation.	

Qu 20	MCQ In a linear correlation, a strong correlation between two variables would produce which of the following product moment coefficients of correlation value?	
A	Outside the range of -0.9 to +0.9	✔
B	Within the range of -0.9 to +0.9	
C	Between 0 and +0.9	
D	Between -0.9 and 0	

Qu 21	DROP DOWN (Cluster) sampling is often used when a sampling frame is not available and is similar to multi-stage sampling.	
A	Cluster Systematic, Random, Quota	

Qu 22	Tue or False a) All those people or objects involved in a survey are called a random population. b) A list of members of a population involved in a survey is known as the sampling frame.	
A	False	
B	True	

Qu 23	True or False a) Systematic sampling allows specific categories within a population to be considered b) Stratified sampling considers every n^{th} member of the population.	
A	False	
B	False	

Qu 24	MCQ A company's turnover over a two-year period is shown below, with the RPI values for the respective years. What is the 2024 turnover, deflated to 2022 prices?	
A	$3.13m	✔
B	$2.42m	
C	$3.48m	
D	$2.18m	

	2022	2024
Turnover	$2.3m	$3.3
RPI	131.0	138.0

Qu 25	MCQ The probability that a member of a sales team will make a sale on any given day is 0.5. What is the probability that one sale will be made on each of three successive days?	
A	0.125	✔
B	0.15	
C	0.45	
D	0.015	

Qu 26	True or False a) You would use a t-test if the population cannot be assumed to be normal. b) Only one tail of the distribution is used in the chi-square test.	
A	False	✔
B	True	✔

Qu 27	MCQ The number of degrees of freedom for a contingency table of size 2 x 5 is which of the following?	
A	4	✔
B	10	
C	7	
D	3	

Qu 28	True or False a) As the sample size increases, the error in an estimate decreases. b) If the sample size doubles, the half width of the confidence interval reduces by half.	
A	True	
B	False	

Qu 29	DROP DOWN The degree of variation or scatter of a distribution is called the (dispersion), while a measure of asymmetry is known as its (skewness).	
A	dispersion average, deviation, range	
B	skewness lopsidedness, weighting, spread	

Qu 30	MCQ In a normal distribution, what percentage of the total area of the curve would be enclosed within the region between the mean and the mean plus one standard deviation?	
A	34.13%	✔
B	68.26%	
C	17.06%	
D	95.44%	