LCCI Level 3 Certificate in Advanced Business Calculations

Overview of content
1 Business ownership /Profitability and liquidity
2 Depreciation of business assets
3 Investment appraisal and optimisation
4 Simple and compound interest
5 Indices and trends

- Multiple choice (MCQ) – select a single correct response
- Multiple response (MRQ) – select all correct responses
- Insert values – add the correct answer, often from your own calculations
- Match items – link related items, definitions, etc
- Fill in blanks – insert the correct words in the spaces provided*
- Drag and drop – move the appropriate word or number into the spaces indicated

Group 1 – select 20 questions (4 marks each)

Qu 1	INSERT VALUE	
	Calculate the simple interest over 4 years for an initial investment of $22500 at 5.5% per year.	
A	4950	✔

Qu 2	INSERT VALUE	
	Calculate the total sum after 5 years of an investment of $117,000 at 3.2% per year. (Give your answer to the nearest dollar.)	
A	136957	✔

Qu 3	MCQ	
	£15000 is invested and accumulates simple interest each year. If after three years the sum has grown to £17025, what is the percentage rate of interest?	
A	4.5	✔
B	4.0	
C	3.8	
D	4.2	

Qu 4	MCQ	
	£4000 is invested and accumulates compound interest each year. If after four years the sum has grown to £4346.73, what is the percentage rate of interest?	
A	2.1	✔
B	2.2	
C	2.0	
D	2.3	

Qu 5	INSERT VALUE	
	Paula borrowed $7400 over a four-and-a-half-year term. No repayments were made until the end of the term. If the amount due for repayment at the end of the term was $9731, what was the percentage rate of simple interest on the loan?	
A	7.0	✔

Qu 6	MCQ	
	Pietro buys a bill of exchange for £95000 and six months later it matures for exactly £100000. Calculate the equivalent percentage rate of interest per year?	
A	10.5	✔
B	21.0	
C	5.75	
D	16.25	

Qu 7	INSERT VALUE	
	Asif buys a computer on hire purchase. The normal selling price of the computer is $700. He pays a deposit of $120 and is charged 15% per year simple interest on the balance, which he repays in 24 equal monthly instalments. Calculate the total cost of the computer for Asif. (Give your answer in whole dollars.)	
A	744	✔

Qu 8	MCQ	
	A product has fixed costs of £2000000 and a variable cost of 50p per item. What would be the total costs of producing 50000 items?	
A	£2025000	✔
B	£2000050	
C	£2002500	
D	£2000250	

Qu 9	INSERT VALUE	
	The total costs of manufacture of a product are $480000, of which 45% are variable.	
	Calculate the variable cost per item (in pence) for a total production run of 250000 items.	
A	86.4	✔

Qu 10	MCQ	
	A product has fixed costs of $2000000 and variable costs of 50c per item.	
	What is the breakeven sales volume if the selling price of each item is $1?	
A	4000000	✔
B	2000000	
C	600000	
D	500000	

Qu 11	MCQ	
	In 2024, ABC Ltd received $75000 in net income from sales, and incurred $16000 in overhead expenses. The cost of goods sold was $37000. What was the net profit for the year in dollars?	
A	22000	✔
B	38000	
C	59000	
D	21000	

Qu 12	MRQ	
	The rate of stockturn can be defined by which of the following?	
A	The average time items remain in stock.	✔
B	The average number of times stock is replaced in one year.	✔
C	The average indirect costs of the production of the items.	
D	The average cost of items produced per year.	

Qu 13	INSERT VALUE	
	Calculate the working capital ratio if current assets are valued at £24000, current liabilities are £10000 and net profit is £8000.	
A	2.4	✔

Qu 14	MCQ	
	An asset that initially cost $25000 is depreciated by equal instalments at a constant rate of $4200 per year. Calculate the residual value of the asset if its estimated working life is 5 years.	
A	4000	✔
B	4200	
C	8200	
D	4500	

Qu 15	INSERT VALUE	
	A factory machine cost £75000 when new and is expected to depreciate at a constant rate of 27% per year. What will be the book value at then of year 4? (Give your answer to the nearest pond.)	
A	29176	✔

Qu 16	MCQ	
	Maria pays £52000 into an investment project. The expected returns are shown below:	
	Year 1 £4000	
	Year 2 £14000	
	Year 3 £22000	
	Year 4 £24000	
	What is the payback period in months?	
A	42	✔
B	36	
C	48	
D	24	
Qu 17	INSERT VALUE	
	An investment of $500000 is expected to give the annual return shown below:	
	Year Return ($)	
	1 100000 2 300000 3 200000	
	Calculate the average rate of return on the investment (in percent).	
A	40	

Qu 18	INSERT VALUE
	Using the 12% discount factors given below, calculate the net present value for the total return of an annual revenue of $15000 after a period of three years.
	Year Discount factor
	1 0.893 2 0.797 3 0.712
A	36030

Qu 19	MCQ
	A development project requires an initial investment of £275000 and is expected to have a life of 5 years. The projected annual returns are shown below.
	Using the 16% discount factors provided, what is the net present value after five years?
	Year Return (£) Discount factor (16%)
	1 20000 0.862
	2 50000 0.743
	3 120000 0.641
	4 200000 0.552
	5 100000 0.476
	(Indicate a profit by + and a loss by -)
A	-20170 ✔
B	+20170
C	+16330
D	-16330

Qu 20	INSERT VALUE
	The gross domestic product of Newlandia in the year 2020 was $110bn. In the following year, it had risen to $123.2bn, and in 2022 was $127.8bn.
	Calculate the index of GDP for 2021, using 2020 as the base year.
A	112

Qu 21	MCQ	
	A manufacturing production index for a certain country is determined annually, using 2010 as a base year when production totalled $47.5bn.	
	If the index number for production for 2024 is stated as 320, what is the value of manufacturing production for 2024? (Give your answer in billions of dollars.)	
A	152	✔
B	143	
C	168	
D	162	

Qu 22	INSERT VALUE	
	The price of a certain product decreased from £3.50 in 2023 to £3.36 in 2024.	
	Calculate the price index number for the product for 2024, using 2023 as the base year.	
A	96	✔

Qu 23	MCQ	
	An index for production for the heavy industry sector in 2020 is 110.0, using 2019 as a base year. The index for 2021 (with 2020 as a base year) was found to be 112.0.	
	What is the index for 2021, using 2019 as a base year?	
A	123.2	✔
B	98.2	
C	101.1	
D	118.6	

Qu 24	MCQ	
	An IT system is purchased for $38000. It is estimated to have a working life of 4 years and a scrap value of $1000. Using the diminishing balance method, what is the approximate annual percentage rate of depreciation?	
A	60	✔
B	40	
C	57	
D	64	

Qu 25	MCQ	
	What is the gross profit as a percentage of net turnover, given the following information? Stock at start of year £9000 Stock at end of year £7000 Annual purchases £57000 Purchase returns £6800 Annual sales £82000 Sales returns £5600	
A	31.7	✔
B	58.7	
C	61.2	
D	71.9	

Group 2 – select 10 questions (2 marks each)

Qu 26	TRUE OR FALSE a) The principal is the original sum invested or borrowed. b) The rate of interest is the amount received or charged per year.	
A	True	
B	False	

Qu 27	TRUE OR FALSE a) An overdraft is an amount of money belonging to one entity and temporarily used by another. b) A loan is an amount owed by an account holder to a bank, other than through a formal arrangement.	
A	False	
B	False	

Qu 28	DROP DOWN When discussion bills of exchange, a drawer is the person who (writes) the bill of exchange, whilst the (drawee) is the person required to pay the sum specified.	
A	writes sell, owns, buys	
B	drawee customer, payee, owner	

Qu 29	TRUE OR FALSE a) The formula for simple interest is given by Interest = PRT / 100 b) After Year 1, the compound interest of an account is always higher than the simple interest, assuming the interest rate is the same for both.	
A	True	
B	True	

Qu 30	DROP DOWN When repaying (a hire purchase) loan, it is normal for the balance remaining after paying the deposit and that total interest to be added together and repaid in an agreed number of (regular) repayments.	
A	a hire purchase an overdraft, an unapproved, a fixed charge	
B	regular variable, annual, convenient	

Qu 31	DROP DOWN	
	The net (worth) of a business is the total of all assets less the total on its liabilities and is often referred as (net) assets or capital invested of the business at a specific point in time.	
A	worth cost, size, value	
B	net gross, current fixed	
Qu 32	TRUE OR FALSE a) An investment will breakeven when its costs are exactly matched by the income generated. b) Once the breakeven point has been found, any change in costs will not affect it.	
A	True	
B	False	

Qu 33	TRUE OR FALSE a) Fixed costs are dependent on the level of production. b) Variable costs are independent of the level of production and are generally linked to a proportion of production.	
A	False	
B	False	

Qu 34	DROP DOWN	
	Return on (capital) employed (ROCE) shows profit as a percentage of (an investment) and may use figures before or after taxation.	
A	capital costs, collateral, components	
B	an investment a sum, a charge, a cost	

Qu 35	DROP DOWN	
	(Gross) profit is the profit before taking into account overhead expenses, whilst net profit includes the (effect) of overheads.	
A	Gross Annual, Stated, Reported	
B	effect, number, costs, importance	

Qu 36	TRUE OR FALSE
	
	  c) All those people or objects involved in a survey are called a random population.
	  d) A list of members of a population involved in a survey is known as the sampling frame.	

A	False	
B	True	

Qu 37	DROP DOWN	
	(Opportunity) cost is the financial benefit that could be gained from a resource if it were to be used in a different way. In most cases, an investor is interested in the (maximum) alternative financial benefit.	
A	Opportunity Operating, Project, Marginal	
B	maximum, optimum, correct, desired	

Qu 38	TRUE OR FALSE	
	a) The depreciation of an asset worth £100, with a working life of 4 years, will always be £25 per year. b) An asset worth £200, depreciating at 25% per year, will have zero book value after 4 years.	
A	False	
B	False	

Qu 39	TRUE OR FALSE	
	a) If UK GDP in 2025 is 3.2 times the level of GDP in 2020, the index will have risen from 150 in 2020 to 153.2 in 2025. b) If GDP in 2020 was three time the value of the base year 2000, and GDP for 2023 is 1.05 times the value for 2020, The index for 2023 will be 336, based on 2000.	
A	False	
B	True	

Qu 40	DROP DOWN	
	The internal rate of return for an investment is the (discount) rate that would give a net present value of zero. The average rate of return is the average return on an investment, expressed as a (percentage) of the investment.	
A	discount nominal, interest, variable	
B	percentage fraction, proportion, ratio	

TOTAL AVAILABLE MARKS = 100