

Entrance examination

Academic Year 2024/2025

**MASTER'S DEGREE STUDY PROGRAMME
N0413A050003 INNOVATION PROJECT MANAGEMENT**

Entrance examination sample test in Exact Sciences

45 mins / Exact Sciences – 10 items per 1 pt. / 10 points in total

- 1) 1 point: The balance sheet provides information on:
 - a) the state of the assets and the sources of their financing at a particular date
 - b) the cost and revenue position for the year
 - c) the state of income and expense for the year
 - d) performance during the financial year
- 2) 1 point: The cash flow is compiled in levels:
 - a) operational, investment, financial
 - b) operational, financial
 - c) only financial
 - d) financial, investment
- 3) 1 point: The main financial objective of a company in a market economy is considered to be:
 - a) maximising the market value of the company
 - b) profit maximisation
 - c) maximising the profitability of the company
 - d) long-term financial stability of the company
- 4) 1 bod: The financial leverage is effective:
 - a) when the interest rate on foreign capital is lower than the return on assets
 - b) when the interest rate on foreign capital is higher than the return on assets
 - c) when the WACC is lower than the return on assets
 - d) when the WACC is higher than the return on assets

- 5) 1 point: When we calculate the average growth coefficient for time series, the following is used:
- arithmetic mean
 - geometric mean
 - harmonic mean
 - standard deviation
- 6) 1 point: The correlation coefficient indicates:
- the intensity of the linear dependence between two variables
 - the quality of the regression model
 - variability of the variable
 - shifting of the regression line
- 7) 1 point: In the context of the perfect competition market for trousers, the prevailing market price per unit stands at 25 EUR. The table below provides a detailed description of costs along with the quantities produced and sold:

Q (quantity produced and sold)	1	2	3	4	5	6
MC (marginal costs)	52	20	22	25	35	70
AC (average costs)	100	80	50	24	32	65
AVC (average variable costs)	80	65	20	23	31	64,5
AFC (average fixed costs)	20	15	10	2	1	0,5

- A profit-maximizing firm produces and sells the maximum possible quantity of its production.
- A profit-maximizing firm produces and sells 4 units of its product, with a profit of 1 Euro per unit.
- A profit-maximizing firm produces and sells 3 units of its product, incurring a loss of 25 Euros per unit.
- A profit-maximising firm exits its activity and leaves the market.

- 8) 1 point: Regarding the Critical Path Method (CPM) in project management, identify its primary characteristics:
- a) It is a method that incorporates probabilities in its analysis.
 - b) It primarily addresses issues related to the management of quality.
 - c) It is a project management tool focused on identifying time reserves within various activities.
 - d) It is the actual approach specific to online marketing.
- 9) 1 point: Considering that our economy is experiencing a negative output gap in GDP, what would typically be observed in a developed EU economy?
- a) Inflation and economic output both increase, accompanied by a high unemployment rate.
 - b) Both inflation and economic output remain stable, and there is a low unemployment rate.
 - c) Inflation and economic output both declined, with a increased unemployment rate.
 - d) Inflation decreases, while economic output is growing, and the unemployment rate is low.
- 10) 1 point: Consider a scenario where a founder-owned, unleveraged firm is presented with an opportunity to take out a loan. The firm's Return on Assets (ROA) is 8%, the loan's interest rate is 7%, and the corporate income tax rate is 20%. If the firm's debt reaches 20% of its total assets and the owner reinvests the loan into the business, what can the owner expect?
- a) A decrease in the Return on Equity (ROE), while the Return on Assets (ROA) remains unchanged.
 - b) A decrease in the Return on Assets (ROA), while the Return on Equity (ROE) remains unchanged.
 - c) An increase in the Return on Equity (ROE), while the Return on Assets (ROA) remains unchanged, along with an increase in the variance of the expected rate of returns.
 - d) An increase in the Return on Assets (ROA), while the Return on Equity (ROE) remains unchanged, and an increase in the expected rate of returns.

Key

(1 point) 1 a, 2 a, 3 a, 4 a, 5 b, 6 a, 7 b, 8 c, 9 c, 10 c.

Entrance examination sample test in English

45 mins / English – 15 items per 1 pt., 5 items per 2 pts / 25 pts in total

Read the sentences and write the correct answers on your answer sheet.

- 11) 1 point: Joel gave up ____ when he was 30.
- a) smoke
 - b) smoking
 - c) to smoke
- 12) 1 point: The butler was ____ I suspected.
- a) last person
 - b) the last person
 - c) a last person
- 13) 1 point: They arrived ____ Prague after two hours.
- a) on
 - b) towards
 - c) in
- 14) 1 point: Why didn't you tell me? If you had told me, I ____
- a) would have helped you
 - b) will help you
 - c) helped you
- 15) 1 point: By the time Sheila got back, Chris ____
- a) was left
 - b) left
 - c) had left
- 16) 1 point: I promise, I ____ the report by Tuesday.
- a) will be finished
 - b) finish
 - c) will have finished

17) 1 point: We went out ____ the rain.

- a) despite
- b) although
- c) in spite

Choose which function each sentence has and write the correct answers on your answer sheet.

18) 1 point: Would you mind going through the agreement once again?

- a) offering
- b) requesting
- c) informing

19) 1 point: The road is under construction.

- a) informing
- b) requesting
- c) suggesting

20) 1 point: Answer all the questions in the form, please.

- a) ordering
- b) apologising
- c) offering

Read the text below and decide which answer best fits each gap.

Corporate culture was recognised back in the 1980s as describing the character of an organisation by looking at the beliefs and the organisational behaviour of its ²¹ . It includes things such as the company's values ²² its ²³ code. The company structure is also taken into account, particularly the ²⁴ within a company. A company's structure can be influenced by its management. For ²⁵ , if management is adaptable and able to respond quickly to change, employees may find that their jobs change.

21) 1 point:

- a) employees
- b) unemployed
- c) employed
- d) employment

22) 1 point:

- a) as soon as
- b) as well as
- c) as much as
- d) as good as

23) 1 point:

- a) costume
- b) wearing
- c) clothes
- d) dress

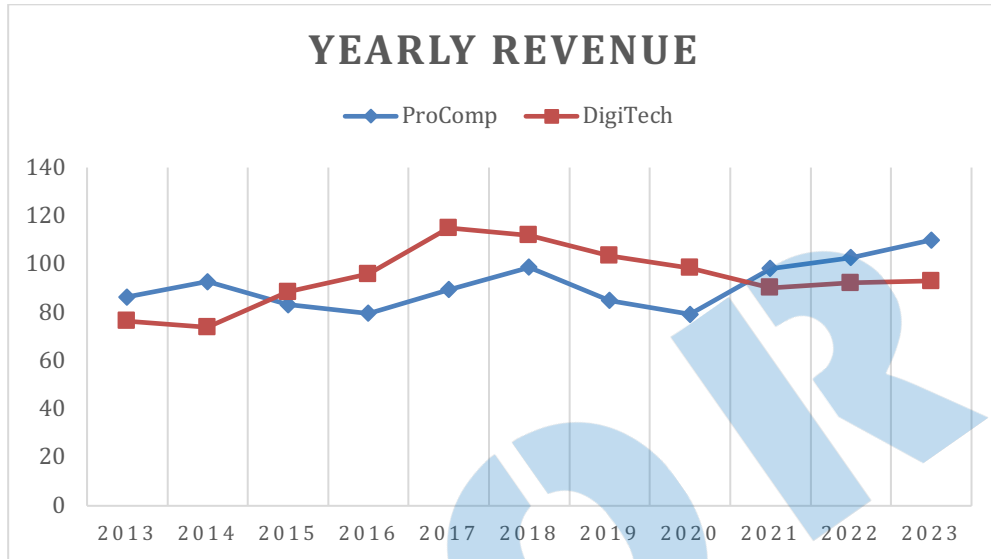
24) 1 point:

- a) strategy
- b) hierarchy
- c) surroundings
- d) image

25) 1 point:

- a) examples
- b) exemplify
- c) instance
- d) the example

26) 2 points: Read the following graph. The vertical axis counts billions of euros. Mark the statement below the graph A, B or C on your answer sheet.



- a) DigiTech's yearly revenue has been constantly rising since 2013.
- b) In 2017, DigiTech's earnings surpassed those of ProComp.
- c) ProComp consistently outperformed DigiTech in revenue every year from 2013 to 2023.

Read the text below and for each question choose the most accurate answer.

Plastic is a big problem for the world. It is causing a lot of damage to our environment. It is polluting rivers and oceans and harming and killing wildlife. Plastic is a growing problem because it takes hundreds of years to break down. Many companies around the world are trying to replace plastic with other things. Coca-Cola has teamed up with a Danish start-up called the Paper Bottle Company (“Paboco” for short) to make a paper bottle. Coca-Cola hopes to completely stop using plastic for its drink bottles. It was ranked as the world’s number one plastic polluter in 2019. In one year, it uses around three million tons of plastic packaging. A lot of this is not recycled.

Paboco asked us to: “Imagine that all plastic packaging in your store has disappeared.” Coca-Cola executives are imagining this. One Coca-Cola exec said: “Our vision is to create a paper bottle that can be recycled like any other type of paper. A paper bottle opens up a whole new world of packaging possibilities. We are convinced that paper packaging has a role to play in the future.”

- 27) 2 points: What environmental issue is mentioned as a significant concern associated with plastic in the text?
- a) Soil erosion and deforestation
 - b) Air pollution and ozone layer depletion
 - c) Water contamination and harm to wildlife
 - d) Noise pollution and habitat destruction
- 28) 2 points: Which organization did Coca-Cola collaborate with to explore an alternative to plastic bottles?
- a) A biodegradable packaging startup
 - b) An eco-friendly waste management company
 - c) A technology firm specializing in recycling
 - d) A sustainable paper product enterprise
- 29) 2 points: In 2019, which position did Coca-Cola hold in the context of global plastic pollution according to the text?
- a) Ranked as the biggest contributor to plastic pollution
 - b) Leader in plastic bottle recycling initiatives
 - c) Top manufacturer of biodegradable plastics
 - d) Not involved in plastic-related environmental issues

30) 2 points: What is the primary aim of Coca-Cola's collaboration with the Paper Bottle Company?

- a) To pioneer a new line of bioplastic bottles
- b) To cease using any form of plastic in packaging
- c) To create a paper bottle that's recyclable like standard paper
- d) To invent a bottle with a shorter degradation period than plastic

Key

(1 point) 11 b, 12 b, 13 c, 14 a, 15 c, 16 c, 17 a, 18 b, 19 a, 20 a, 21 a, 22 b, 23 d, 24 b, 25 c,

(2 points) 26 b, 27 c, 28 d, 29 a, 30 c

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