

BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF BUSINESS AND MANAGEMENT
Entrance examinations 2017

Bachelor's study program:

Economics and Management

Study branch: ***Entrepreneurship and
Small Business Development***

To be filled in by the applicant:
Code number

Date of birth									

ZÁZNAM ZKUŠEBNÍ KOMISE	
Počet bodů	
Za správnost předseda komise:	
Jméno a příjmení	Podpis

Code: **1301**

TEST OF STUDY PREREQUISITIES

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INSTRUCTION

The test contains 25 multiple-choice questions with five alternatives of answers (A), (B), (C), (D), (E) while just one answer is correct. If your answer is correct, you will get four points, if you do not answer, you will get no point and if your answer is not correct, you will lose one point, ie. the maximum number of points you can receive in the test is 100. Write your answer in the square on the right side. If you want to change the answer, ask the present committee member to sign it. The test is to be completed in 45 minutes. Use of calculators, subsidiary materials or any communication media is not permitted, only writing equipments are allowed on the test.

1.	The solution to the equation $\frac{81}{16} = \left(\frac{2}{3}\right)^x \left(\frac{9}{4}\right)^{x+1}$ is the number: (A) 0 (B) 2 (C) 1 (D) 3 (E) None of the above answers is correct	
2.	From the following estimates of the value of the expression $\log_9 82 - \lg 0,75$, the most accurate value is: (A) 2 (B) 1 (C) 4 (D) 5 (E) -1	
3.	The expression $\frac{x^2-1}{x^2+1}$ can be simplified for each real number x as: (A) -1 (B) $x - 1$ (C) $\frac{x-1}{x+1}$ (D) $x + 1$ (E) None of the above answers is correct	

4.	The product of two various solutions to the equation $x^2 + 4x + 4 = 9$ equals to: (A) 3 (B) 5 (C) -3 (D) -5 (E) None of the above answers is correct	
5.	The product of three consecutive natural numbers equals to 336. The sum of the first two of these numbers equals to: (A) 13 (B) 15 (C) 11 (D) 10 (E) None of the above answers is correct	
6.	$8^{-\frac{1}{3}}$ equals to: (A) $-\frac{8}{3}$ (B) $\frac{3}{8}$ (C) 0.5 (D) -0.5 (E) None of the above answers is correct	
7.	One of the solution to the equation $3x + 2 = x - 1 + \frac{2x+3}{x-1}$ is the number: (A) $\frac{3}{2}$ (B) 2 (C) -1 (D) $-\frac{2}{3}$ (E) None of the above answers is correct	
8.	If $x = \frac{2y-3}{y+4}$, then: (A) $y = \frac{3x-4}{2-x}$ (B) $y = \frac{3x+4}{2+x}$ (C) $y = \frac{4x-3}{2+x}$ (D) $y = \frac{4x+3}{2-x}$ (E) None of the above answers is correct	
9.	The expression $V = \frac{(2a+1)^{\frac{a}{2}}}{3a-2}$ acquires for $a = \frac{2}{3}$ the value of: (A) $\frac{11}{12}$ (B) $\frac{1}{2}$ (C) $\frac{4}{3}$ (D) $\frac{3}{4}$ (E) None of the above answers is correct	
10.	$\log_3 243 - 2\sin \frac{\pi}{6}$ equals to: (A) 4 (B) 5 (C) 6 (D) $5 - \sqrt{2}$ (E) None of the above answers is correct	
11.	The probability of the certain event equals to: (A) 0 (B) 0.5 (C) 1 (D) -1 (E) 100	

12.	Two events A and B are considered as mutually disjoint provided that their intersection is a: (A) certain event (B) stochastic event (C) possible event (D) random event (E) impossible event	☐
13.	A businessman received an offer of four economic journals and five IT journals. He plans to subscribe to 2 economic journals and 3 IT journals. The number of all various methods of how the businessman can choose the combination of journal subscriptions equals to: (A) 20 (B) 60 (C) 120 (D) 720 (E) 2,880	☐
14.	From the point of the interest rate, the most expensive source of financing usually is: (A) a long-term bank credit (B) a current-account (C) a loan guaranteed by the state (D) an interest-free loan (E) a bank mortgage	☐
15.	What is the PPC? (A) an English abbreviation of paid on-line advertising (B) a chemical term for the material polystyrene (C) a methodology to estimate the market share (D) an abbreviation for the business codex (E) a name for the business plan	☐
16.	What is the “marketing mix”? (A) a set of the basic marketing tools (B) a set of tools of marketing communication (C) a model of mixing of colours used to create marketing materials (D) a device for sound synchronization technology in the advertising (E) a set of various job positions in the company	☐
17.	The definition of “nonpersonal mass communication” is described the best by the term: (A) public relations (B) advertising (C) sales support (D) sponsoring (E) direct mail	☐
18.	Choose the one which is not a word processor: (A) MS Word (B) MS Excel (C) Writer – OpenOffice/LibreOffice (D) Lotus Word Pro (E) WordPad	☐

19.	Choose the invalid entry for SUM function in MS Excel (A) =SUM(A1,A2,A3) (B) =SUM(A1,A2:A3) (C) =SUM(A1:A2,A3) (D) =SUM(A1:A3) (E) =SUM(A1....A3)	☐
20.	The project, the objective of which is to reduce excessive bureaucracy in the Czech Republic between a citizen-public administration, is called the “Czech Point”. What does this term mean? (A) Czech Permanent Information Terminal (B) Czech Process of Information Transfer (C) Czech Post Information Terminal (D) Czech National Certification and Information Terminal (E) Czech Point of Interest Terminal	☐
21.	Which of the below-mentioned values corresponds the best with the average unemployment rate in the Czech Republic for the year 2016? (A) 3.5% (B) 1.5% (C) 5.5% (D) 7.5% (E) 8.5%	☐
22.	The rate of the value added tax in the Czech Republic in 2016 amounted to: (A) 10%, 15% and 21% (B) 7%, 14% and 20% (C) 25% and 3% (D) 20.5% (E) 3%	☐
23.	Which country is a member of the European Union but not a member of countries collectively known as the eurozone? Consider situation in 2016: (A) France (B) Finland (C) Norway (D) Sweden (E) Greece	☐
24.	Which of the listed legal forms of companies did not constitute the four most common legal forms in the Czech Republic in the year 2016? (A) European legal company (B) limited liability companies (C) joint-stock companies (D) limited partnership (E) general commercial partnership	☐
25.	The development of the city Zlín between WWI and WWII is associated with the name of the businessman: (A) Emil Kolben (B) Tomáš Baťa (C) Emil Škoda (D) Václav Laurin (E) Donald Trump	☐

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- 1) B
- 2) B
- 3) E
- 4) D
- 5) A
- 6) C
- 7) B
- 8) D
- 9) E
- 10) A
- 11) C
- 12) E
- 13) B
- 14) B
- 15) A
- 16) A
- 17) B
- 18) B
- 19) E
- 20) D
- 21) C
- 22) A
- 23) D
- 24) A
- 25) B