

**přijímací zkouška**

**AR 2024/2025**

**BAKALÁŘSKÝ STUDIJNÍ PROGRAM  
B0413P050061 EKONOMIKA A MANAGEMENT**

## Vzorový test k přijímacím zkouškám z matematiky

30 min | Matematika – 10 položek á 1 b | celkem 10 b

- 1) 1 bod: Množina všech reálných čísel, pro která platí  $\frac{|x-4|}{x+6} < 1$ , je rovna množině
- a)  $(-\infty, -6) \cup (4, \infty)$
  - b)  $\emptyset$
  - c)  $(-6, 4)$
  - d)  $(-\infty, -6) \cup (-1, \infty)$
  - e) žádná z odpovědí a), b), c), d) není správná
- 2) 1 bod: Která z funkcí je klesající?
- a)  $f(x) = -\log_{\frac{2}{3}} x$
  - b)  $f(x) = \log_{\frac{2}{3}} x$
  - c)  $f(x) = \log_2 x$
  - d)  $f(x) = e^{2x}$
  - e) žádná z odpovědí a), b), c), d) není správná
- 3) 1 bod: Rovnice přímky, která prochází body  $[2, -2]$  a  $[1, 1]$ , je
- a)  $y = -3x + 4$
  - b)  $y = 3x - 4$
  - c)  $y = -3x - 4$
  - d)  $y = 3x + 4$
  - e) žádná z odpovědí a), b), c), d) není správná

- 4) 1 bod: V dodávce je 15 výrobků. Kolika způsoby je možné z této dodávky vybrat ke kontrole 2 výrobky?
- a) 210
  - b) 30
  - c) 225
  - d) 13
  - e) 105
- 5) 1 bod: Mezi kořeny kvadratické rovnice  $x^2 - x - 2 = 0$  vložte dvě čísla tak, aby spolu s těmito kořeny vznikly první čtyři členy aritmetické posloupnosti. Součet vložených čísel je
- a) 0
  - b) 1
  - c) -1
  - d) 2
  - e) žádná z odpovědí a), b), c), d) není správná
- 6) 1 bod: Určete definiční obor funkce  $f(x) = e^x + \sqrt{1-x}$
- a)  $(0,1)$
  - b)  $\emptyset$
  - c)  $(-1,0) \cup (0,1)$
  - d)  $(-\infty, 1)$
  - e)  $(-\infty, 1)$
- 7) 1 bod: Určete definiční obor funkce  $f(x) = \frac{10}{\sqrt{x-|x|}}$
- a)  $(-\infty, \infty)$
  - b)  $(-\infty, 1)$
  - c)  $(-1,0) \cup (0,1)$
  - d)  $(-\infty, 1)$
  - e) žádná z odpovědí a), b), c), d) není správná

- 8) 1 bod: Množina všech reálných čísel, pro která platí  $\log_2^2 x - \log_2 x - 2 < 0$  je rovna množině
- a)  $(-\infty, +\infty)$
  - b)  $\emptyset$
  - c)  $(-\infty, 1) \cup (2, \infty)$
  - d)  $(\frac{1}{2}, 4)$
  - e) žádná z odpovědí a), b), c), d) není správná
- 9) 1 bod: Reálná část komplexního čísla  $z = (2 - i)^5$  je rovna číslu
- a) 0
  - b) 32
  - c) -41
  - d) -38
  - e) žádná z odpovědí a), b), c), d) není správná
- 10) 1 bod: Poloměr kružnice o rovnici  $x^2 + y^2 + 6x - 2y - 15 = 0$  je
- a) 15
  - b) 25
  - c) 5
  - d) -15
  - e) žádná z odpovědí a), b), c), d) není správná

### Klíč

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

## Vzorový test k přijímacím zkouškám z anglického jazyka

30 min | Anglický jazyk – 15 položek á 1 b, 5 položek á 2 b | celkem 25 b

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

- 11) 1 point: You can borrow my umbrella \_\_\_\_ you are careful with it.
- a) unless
  - b) as far as
  - c) even if
  - d) as long as
- 12) 1 point: Why didn't she go with you to the shopping mall? She \_\_\_\_ a great time!
- a) must have
  - b) can have
  - c) could have had
  - d) must have had
- 13) 1 point: I went on a tour of Scotland last summer. We \_\_\_\_ at a caravan campsite near Edinburgh.
- a) stayed
  - b) to stay
  - c) staying
  - d) have stayed
- 14) 1 point: If she \_\_\_\_ harder, she might pass the exam next week.
- a) will study
  - b) study
  - c) doesn't study
  - d) studied
- 15) 1 point: Do you \_\_\_\_ get up early every day?
- a) must
  - b) have to
  - c) needn't
  - d) can

- 16) 1 point: Max \_\_\_\_ to me for damaging the bike when he borrowed it.
- a) blamed
  - b) sorry
  - c) apologized
  - d) explained
- 17) 1 point: Customers have the \_\_\_\_ to get a discount if they buy more than four products.
- a) occasion
  - b) benefit
  - c) ability
  - d) opportunity
- 18) 1 point: We'll have to \_\_\_\_ with that problem later.
- a) look
  - b) solve
  - c) fix
  - d) deal
- 19) 1 point: I \_\_\_\_ in Prague since I was a kid and I still love living here.
- a) live
  - b) was living
  - c) have lived
  - d) lived
- 20) 1 point: We \_\_\_\_ a beautiful week in London last year.
- a) took
  - b) passed
  - c) stayed
  - d) spent

21) 1 point: I spent all my money \_\_\_\_ travelling.

- a) for
- b) on
- c) in
- d) to

22) 1 point: \_\_\_\_ to new research, sheep may be cleverer than we think.

- a) Based
- b) Regarding
- c) Following
- d) According

23) 1 point: Is there \_\_\_\_ milk left in the fridge?

- a) any
- b) the
- c) a
- d) d) -

Read the texts below and mark the correct answer on your answer sheet.

24) 1 point: You see this poster at a concert venue. What does it tell you?



- a) You may come here with your partner, but you mustn't come close to other people.
- b) You are not allowed to talk at the venue.
- c) You must not greet your friends by waving your hand at them if you are 2 meters far from them.
- d) When you are more than two metres away from everyone else, you are okay.



25) 1 point: You can see this at a restaurant. What does it mean?



- a) We have more food available apart from what you can see on the menu.
- b) If you want to see the offer, you need to go inside.
- c) No food is available today; only coffee is served.
- d) If you want to order something, you need to do that by the counter.

**Read the text and for each question choose the correct answer.**

Researchers have found that the martial art of tai chi could slow the progression of Parkinson's disease by years. Tai chi, with its slow, meditative movements, is known to benefit physical and mental health. Doctors from a university in Shanghai conducted a long study on people with Parkinson's. The researchers found that the **condition** progressed at a slower rate in those who practiced tai chi. They observed fewer falls and less dizziness in the tai chi practitioners. The researchers also noted that the cognitive function of those who practiced tai chi deteriorated more slowly.

Parkinson's is a brain disorder that affects the nerves and muscles. It causes unintended or uncontrollable movements, and difficulty with balance and coordination. People with Parkinson's may have difficulty walking and talking. One famous person with Parkinson's was the heavyweight boxer Muhammad Ali. The researchers said tai chi could keep symptoms of Parkinson's at bay for years. They said: "The long-term beneficial effect of tai chi...could prolong the time without disability, leading to a higher quality of life, a lower burden for caregivers and a reduction in drug use."

(<https://breakingnewsenglish.com/2310/231030-tai-chi-parkinsons.html>)

- 26) 2 points: Choose the best heading for the article above.
- a) Tai chi could slow down Parkinson's.
  - b) A famous boxer enjoyed tai chi.
  - c) Researchers study the effect of tai chi on several illnesses.
  - d) People with Parkinson's enjoy tai chi.
- 27) 2 points: The researchers conducted a research which showed that
- a) if you practice tai chi, you will live longer.
  - b) people who practice tai chi will not develop Parkinson's disease.
  - c) practicing tai chi may help slow the progression of a disease.
  - d) people with Parkinson's practice tai chi more than others.
- 28) 2 points: People with Parkinson's
- a) enjoy practicing ta chi more than others.
  - b) may have difficulties controlling their bodies.
  - c) need to take more drugs if they want to practice ta chi.
  - d) should do more sports.
- 29) 2 points: Muhammad Ali is a person who
- a) experienced the benefits of tai chi himself.
  - b) helped the researchers analyze the potential benefits of tai chi.
  - c) suffered from a serious disease.
  - d) manage to recover from Parkinson's
- 30) 2 points: The word condition (line 4) is used in the text with the same meaning as:
- a) the research.
  - b) an illness.
  - c) martial art.
  - d) mental health of people who practice tai chi.

**Klíč**

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(1 bod) 11 d, 12 c, 13 a, 14 d, 15 b, 16 c, 17 d, 18 d, 19 c, 20 d, 21 b, 22 d, 23 a, 24 d, 25 a,  
(2 body) 26 a, 27 c, 28 b, 29 c, 30 b.

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