

Test Exam Industry 4.0 - Digital Transformation

1. Question:

What are disruptors in the context of digital transformation?

- Hackers who specifically extract process data from companies.
- Established companies trying to block digital transformation in their sector.
- Companies that break value chains into parts and reassemble them.
- Companies that compete with major tech firms without digital tools.

(Single choice question type)

1 Point

2. Question:

For which of the four levers is the Cloud Computing a key enabling technology?

- Digital Data
- Networking
- Digital Customer Access
- Digital Factory

(Single choice question type)

1 Point

3. Question:

On what does the networking lever focus in the context of digital transformation?

- On reducing unit costs through self-controlling systems.
- On increasing process efficiency through data evaluation.
- On increasing companies' flexibility through information exchange.
- On information overload due to connected IoT.

(Single choice question type)

1 Point

4. Question:

What emerges in the third stage of digital transformation?

- Smart Homes
- Smart Factories
- Smart Products
- Smart Services

(Single choice question type)

1 Point

5. Question:

Which aspect is not a good approach to dealing with disruptive technologies?

- Acquisition
- Visionary thinking and action
- Economic interest
- Spin-Off

(Single choice question type)

1 Point

6. Question:

Under which technology type can most new technologies be classified?

- Low-End Disruption
- Sustaining Innovation
- New-Market Disruption
- High-End Disruption

(Single choice question type)

1 Point

7. Question:

Which department is responsible for identifying disruptive technologies in the market?

- Innovation management
- Idea management
- Compliance management
- Obsolescence management

(Single choice question type)

1 Point

8. Question:

What is an alternative model to disruptive innovation?

- Conjoint analysis
- Gartner Hype Cycle
- S-curve model
- Gartner Magic Quadrant

(Single choice question type)

1 Point

9. Question:

What are the disadvantages of disruptive technologies compared to sustaining technologies?

- Technology is hard to improve.
- Technology still needs to be accepted by the market.
- Technology is also offered by competitors.
- Technology has a short life cycle.

(Single choice question type)

1 Point

10. Question:

What is the name of the first buyer group in a New-Market Disruption?

- early adopters
- early majority
- laggards
- non consumers

(Single choice question type)

1 Point

11. Question:

Which part of AI is controversially discussed?

- Bionics
- Ethics
- Physics
- Chemistry

(Single choice question type)

1 Point

12. Question:

Which algorithm is used for training an artificial neural network?

- Approximation Algorithm
- Backpropagation Algorithm
- Monte Carlo Algorithm
- Probabilistic Algorithm

(Single choice question type)

1 Point

13. Question:

Into which three categories is data classified for machine learning?

- Training data, Test data, Qualification data
- Test data, Validation data, Development data
- Start data, Test data, Validation data
- Training data, Validation data, Test data

(Single choice question type)

1 Point

14. Question:

Where is machine learning used in manufacturing?

- Data Mining
- Big Data
- Deep Learning
- Predictive Maintenance

(Single choice question type)

1 Point

15. Question:

What does the abbreviation IEEE stand for?

- Institute of Electrical and Electronic Excellence
- Institute of Electrical and Electronics Engineers
- International Electronic and Electrical Engineers
- International Union of Electronic Entities

(Single choice question type)

1 Point

16. Question:

How many levels of automation are there in autonomous driving?

- 3
- 4
- 5
- 6

(Single choice question type)

1 Point

17. Question:

Which type of error will no longer exist in autonomous driving?

- Technical errors
- Environmental
- Human errors
- Other errors

(Single choice question type)

1 Point

18. Question:

What is a risk when implementing XR?

- Loss of quality
- Acceptance
- Communication
- Cost increase

(Single choice question type)

1 Point

19. Question:

When we talk about AR in the broader sense, it means ...

- three-dimensional relationship of the virtual objects is not fulfilled
- no combination of the real and virtual world
- no characteristic of Azuma fulfilled
- not interactive in real time

(Single choice question type)

1 Point

20. Question:

What is correct?

- XR is an umbrella term for VR, AR, and MR
- VR is an umbrella term for AR, MR, and XR
- AR is an umbrella term for VR, MR, and XR
- MR is an umbrella term for VR, AR, and XR

(Single choice question type)

1 Point

21. Question:

A completely artificial, three-dimensional environment corresponds to the technology ...

- Augmented Virtuality
- Augmented Reality
- Virtual Reality
- Realität

(Single choice question type)

1 Point

22. Question:

Why is the cryptocurrency Bitcoin not yet fully established as a means of payment?

- Low transaction speed
- Divisibility of currency
- High transaction costs
- High price fluctuations

(Single choice question type)

1 Point

23. Question:

Which cryptocurrency is most commonly used for smart contracts?

- Bitcoin Cash
- Monero
- Ethereum
- Bitcoin

(Single choice question type)

1 Point

24. Question:

What is a Hash-reference?

- A hashing algorithm
- An encrypted transaction
- A reference to stored data
- A one-way function

(Single choice question type)

1 Point

25. Question:

After how many years is the Bitcoin supply halved?

- Every 2 years
- Every 4 years
- Every year
- Never

(Single choice question type)

1 Point

26. Question:

What is meant by the term "altcoin"?

- Coins that have been in circulation for over 5 years
- Bitcoin (oldest cryptocurrency)
- Cryptocurrencies other than Bitcoin
- Coin money

(Single choice question type)

1 Point

27. Question:

Which country pursues a restrictive policy towards cryptocurrencies?

- Island
- USA
- Malta
- China

(Single choice question type)

1 Point

28. Question:

Which cryptocurrency cooperates with the banking system and acts as a payment network??

- Ripple
- Ethereum
- Cardano
- IOTA

(Single choice question type)

1 Point

29. Question:

Which property is essential for a cryptocurrency to handle global transactions?

- Inflation protection
- Scalability
- Backing by real assets
- CO₂ neutrality

(Single choice question type)

1 Point

30. Question:

What does NFT stand for?

- New Fiat Treaty
- Non Fungible Token
- National Fund Treasury
- Nounce Finding Thread

(Single choice question type)

1 Point

31. Question:

What does the term "digital literacy" describe?

- The digitally generated and produced data waste
- The vast amounts of digital literature
- The digital regulations in book management
- Competence in handling new technical devices

(Single choice question type)

1 Point

32. Question:

What is a positive outcome of automation in production?

- Reduced demand for workers
- Elimination of heavy manual labor
- Sinkende Löhne
- Lower wages

(Single choice question type)

1 Point

33. Question:

Which of the following is NOT a difficulty for employers in implementing mobile work?

- Compliance with occupational safety standards
- Ensuring data security
- Recording working hours
- Providing attractive office furniture

(Single choice question type)

1 Point

34. Question:

What is the typical size range for Big Data?

- <Kilobyte
- Mega- Gigabyte
- Tera - Zettabyte
- > Yottabyte

(Single choice question type)

1 Point

35. Question:

Which characteristics are used to describe Big Data?

- Velocity, Veracity, Validity, Venerability, Value
- Value, Validity, Velocity, Venerability, Veracity
- Volume, Validity, Velocity, Victory, Viscosity
- Volume, Veracity, Value, Variety, Velocity

(Single choice question type)

1 Point

36. Question:

Big Data solutions are for companies...

- not associated with further costs, as the existing infrastructure is sufficient
- associated only with high acquisition costs
- associated with high costs due to acquisition, training, new employees, etc.
- free of charge due to public domain offerings

(Single choice question type)

1 Point

37. Question:

What are the five steps of digital transformation?

Lösung:

1. Step: Digital Reality
2. Step: Digital Understanding
3. Step: Digital Communication
4. Step: Digital Relationship
5. Step: Digital Added Value (5 points)

5 Points

38. Question:

What method helps established companies leverage disruptive technologies themselves? Briefly describe.

Lösung:

Established companies create independent start-ups (spin-offs). (1 points)
These spin-offs operate completely separately from the parent company (2 points)
and can therefore react more quickly to market changes. (2 points)

5 Points

39. Question:

What does the "Turing test" mean?

Lösung:

In this test, a machine is considered to have artificial intelligence if it is capable of making it impossible for a human to distinguish whether it is communicating with another human or a machine.
(3 points)

3 Points

40. Question:

Summarize Elaine Rich's definition of Artificial Intelligence.

Lösung:

Artificial Intelligence is the field of research focused on teaching computers to do tasks currently performed better by humans. (3 points)

3 Points

41. Question:

What is Strong AI?

Lösung:

A hypothetical AI system with intelligence comparable to human performance across all areas and not limited to specific applications. (3 points)

3 Points

42. Question:

Name two regulations from the 2021 German autonomous driving law.

Lösung:

Autonomous vehicles are limited to predefined operational areas. (2 points)
Continuous monitoring by a natural person is required. (2 points)

4 Points

43. Question:

Although more and more cars are being registered, there has been a decline in road traffic fatalities for decades. How can this be explained? Give at least four examples.

Lösung:

Increase in safety-enhancing regulations in road traffic. (2 Points)

- e.g. 100 km/h speed limit on rural roads
- e.g. seat belt requirement
- e.g. increase in digital driver assistance systems
- e.g. emergency braking (4 points)

6 Points

44. Question:

What is meant by the term "immersion"??

Lösung:

The term "immersion" describes the effect of the user's complete immersion in virtual reality. The user perceives the simulated reality as "real."

2 Points

45. Question:

What do "AR" and "VR" mean, and how do the representations of objects differ between the technologies?

Lösung:

AR is the abbreviation for augmented reality. AR involves projecting virtual objects into the real environment. VR stands for virtual reality. With VR technology, the real environment is completely replaced by a computer-generated 360° environment.

4 Points

46. Question:

What are the advantages of Big Data? Name two with a short explanation..

Lösung:

- Gaining customer insights
- Optimization of business processes
- Support for decision-making
- Optimal resource utilization

4 Points

47. Question:

What is the biggest risk associated with Big Data? (Brief explanation)

Lösung:

Privacy and data protection:

Through decryption and analysis of traces, people can be linked to the data, thereby losing any kind of anonymity. (3 Points)

3 Points

48. Question

Discuss the acceptance of fully autonomous driving in Germany and internationally.

Solution:

For every argument/thought 1 Point

10 Points

49. Rated lecture

10 Points

Total

100 Points