

02. IT Fundamentals

Q 26. Which of the following device combines transmissions from different input/output devices into one line?

- Ops:
- A. ☐ Modifier
 - B. ☐ Repeater
 - C. ☒ Multiplexer
 - D. ☐ Concentrator

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Q 27. If there are 10 computers connected through a hub then how many collision domain(s) will be there?

- Ops:
- A. ☒ 1
 - B. ☐ 0
 - C. ☐ 3
 - D. ☐ 5

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Q 28. Determine the candidate key for the given relation and related functional dependency.

$R = (A, B, C, D, E, F)$

$C \rightarrow F$

$E \rightarrow A$

$EC \rightarrow D$

$A \rightarrow B$

- Ops:
- A. ☐ EF
 - B. ☐ E
 - C. ☐ AB
 - D. ☒ CE

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Q 29. Which of the following is/are true?

- 1) Only the set of non-essential attributes of a relation can be a part of candidate key of that relation.
- 2) Only essential attributes of relation can be a part of candidate key of that relation.
- 3) Set of the essential attributes of a relation can be a part of candidate key of that relation.

Q 29. Which of the following is/are true?

- 1) Only the set of non-essential attributes of a relation can be a part of candidate key of that relation.
- 2) Only essential attributes of relation can be a part of candidate key of that relation.
- 3) Set of the essential and non-essential attributes can be a part of candidate key of that relation.

Ops: A. ☐ Only 1
B. ☐ None of the above mentioned option
C. ☐ Only 3
D. ☒ Only 2

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Q 30. Determine the normal form of relation $R(m,n,o,p,q)$ with functional dependencies $f\{m \rightarrow o, n \rightarrow p, mn \rightarrow q\}$.

Ops: A. ☒ 2NF
B. ☐ BCNF
C. ☐ 3NF
D. ☐ 1NF

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Q 31. Which of the following cloud computing technology helps to use applications as a service for other applications regardless the type of vendor, product or technology?

Ops: A. ☐ Grid Computing
B. ☐ Virtualization
C. ☒ Service-Oriented Architecture (SOA)
D. ☐ Utility Computing

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Q 32. Which of the following provides connectivity between the cloud services users and devices such as desktop computers, laptops, mobile phones, Iphone, I-pad etc.?

Ops: A. ☐ Monitor of services
B. ☒ Cloud carrier
C. ☐ Cloud service

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- Ops:
- A. ☐ Monitor of services
 - B. ☒ Cloud carrier
 - C. ☐ Cloud auditor
 - D. ☐ Load dispatcher

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Q 33. Which of the following is a system that accepts service requests and allocates virtual machines as required?

- Ops:
- A. ☒ Monitor of services
 - B. ☐ Load dispatcher
 - C. ☐ Cloud auditor
 - D. ☐ Cloud carrier

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Q 34. Which of the following is the disadvantage of DBMS?

1. Installation cost is high
2. Installation is time consuming
3. Centralized database control

- Ops:
- A. ☒ 1, 2 & 3
 - B. ☐ Only 2
 - C. ☐ 1 & 2
 - D. ☐ Only 1

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Q 35. Which of the following problem arises in file processing system when transaction failure occurs due to power failure?

- Ops:
- A. ☐ Data security problem
 - B. ☐ Data atomicity problem

Q 35. Which of the following problem arises in file processing system when transaction failure occurs due to power failure?

- Ops:
- A. ☐ Data security problem
 - B. ☐ Data atomicity problem
 - C. ☒ Data inconsistency problem
 - D. ☐ Data Integrity problem

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Q 36. Due to which of the following characteristic of cloud computing additional resources are added when an application load increases?

- Ops:
- A. ☐ Self Service
 - B. ☐ Per-Usage Billing
 - C. ☒ Elasticity
 - D. ☐ Customization

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Q 37. In cloud computing, which of the following characteristic allows user to release the resources as soon as they are not required?

- Ops:
- A. ☐ Per usage metering
 - B. ☐ Self service
 - C. ☒ Elasticity
 - D. ☐ Customization

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Q 38. Which of the following type of phishing attack leverages DNS cache poisoning to capture user credentials through a fake login landing page?

- Ops:
- A. ☐ Spear Phishing
 - B. ☒ Pharming
 - C. ☐ Whaling
 - D. ☐ All of the emntioned options

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Q 39. Arrange the following types of topologies in descending order of the cabling cost if 50 computers are there in the network.

1. Full mesh topology
2. Star topology
3. Ring topology

- Ops:
- A. ☒ 1-2-3
 - B. ☐ 1-3-2
 - C. ☐ 3-1-2
 - D. ☐ 3-2-1

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Q 40. Bridge (networking component) can be used to join

- I. An unshielded twisted-pair (UTP) cabling and fiber-optic cabling
- II. Token Ring and Ethernet

- Ops:
- A. ☐ Only I
 - B. ☐ Neither I Nor II
 - C. ☐ Both I and II
 - D. ☒ Only II

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