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CHAPTER 8 — ENTREPRENEURSHIP IN DIGITAL AGE

MCQ PRACTICE PACK

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Board: FBISE

Class: 11

Subject: Computer Science

Chapter: Unit 8 — Entrepreneurship in Digital Age

Total MCQs: 50

SECTION A — EASY

15 MCQs

MCQ 1

Product development is the process of:

A. Only selling products

B. Creating a new product or improving an existing one

C. Only advertising products

D. Only packaging products

Correct Answer: B. Creating a new product or improving an existing one

Explanation: Product development is the process of creating a new product or service, or improving an existing one, to meet the needs of customers.

MCQ 2

Which of the following is NOT a stage of product development?

A. Idea Generation

B. Prototyping

C. Testing

D. Deleting

Correct Answer: D. Deleting

Explanation: Product development stages include idea generation, research, design, prototyping, testing, refinement, launch, and maintenance. Deleting is not a stage.

MCQ 3

A prototype is:

A. The final product

B. A preliminary version or working model of a product

C. A type of advertisement

D. A sales report

Correct Answer: B. A preliminary version or working model of a product

Explanation: A prototype is a preliminary version or working model of a product.

MCQ 4

Low-fidelity prototypes are:

A. Detailed and realistic

B. Simple, rough, and quick to create

C. Expensive to make

D. Interactive

Correct Answer: B. Simple, rough, and quick to create

Explanation: Low-fidelity prototypes are simple, rough, and quick to create. They focus on basic layout and structure.

MCQ 5

High-fidelity prototypes are:

A. Simple sketches

B. Detailed, realistic, and close to the final product

C. Cheap to make

D. Only used for physical products

Correct Answer: B. Detailed, realistic, and close to the final product

Explanation: High-fidelity prototypes are detailed, realistic, and close to the final product.

MCQ 6

The primary purpose of creating a prototype is to:

A. Impress investors

B. Test ideas, gather feedback, and identify problems

C. Finalize the product

D. Sell the product

Correct Answer: B. Test ideas, gather feedback, and identify problems

Explanation: Prototypes help test ideas, gather feedback, and identify problems before full development.

MCQ 7

Which of the following is a best practice when creating a prototype?

A. Start with high-fidelity

B. Start simple with low-fidelity

C. Avoid user feedback

D. Spend maximum time on design

Correct Answer: B. Start simple with low-fidelity

Explanation: A best practice is to start simple with low-fidelity prototypes.

MCQ 8

Testing prototypes with real users helps to:

A. Delay the project

B. Find problems early and improve the product

C. Increase costs

D. Avoid feedback

Correct Answer: B. Find problems early and improve the product

Explanation: Testing with real users helps find problems early and improve the product.

MCQ 9

Which method involves users speaking their thoughts while using a prototype?

A. A/B Testing

B. Think-Aloud Protocol

C. Heuristic Evaluation

D. Cognitive Walkthrough

Correct Answer: B. Think-Aloud Protocol

Explanation: Think-Aloud Protocol involves users speaking their thoughts while using a prototype.

MCQ 10

MVP stands for:

A. Most Valuable Product

B. Minimum Viable Product

C. Maximum Value Product

D. Minimum Value Prototype

Correct Answer: B. Minimum Viable Product

Explanation: MVP stands for Minimum Viable Product.

MCQ 11

The main purpose of an MVP is to:

A. Build the final product immediately

B. Learn from real users and validate ideas with minimum effort

C. Avoid user feedback

D. Increase development time

Correct Answer: B. Learn from real users and validate ideas with minimum effort

Explanation: The main purpose of an MVP is to learn from real users and validate ideas with minimum effort.

MCQ 12

Which of the following is a real-world example of an MVP?

A. Facebook started for Harvard students only

B. A fully featured product launched immediately

C. A product with all possible features

D. A product that is never tested

Correct Answer: A. Facebook started for Harvard students only

Explanation: Facebook started as an MVP for Harvard students only.

MCQ 13

Which of the following is a characteristic of a good MVP?

A. Delivers core value

B. Has all possible features

C. Allows learning from real users

D. Is the smallest version that works

Correct Answer: B. Has all possible features

Explanation: An MVP should deliver core value, allow learning from real users, and be the smallest version that works. It should NOT have all possible features.

MCQ 14

In the context of MVP, "validated learning" means:

A. Learning from books

B. Learning from real user feedback and data

C. Learning from competitors

D. Learning from theoretical models

Correct Answer: B. Learning from real user feedback and data

Explanation: Validated learning is the process of learning from real user feedback and data.

MCQ 15

Which of the following is a risk of NOT testing prototypes?

A. Finding problems early

B. Costly mistakes later in development

C. Improved user satisfaction

D. Faster development

Correct Answer: B. Costly mistakes later in development

Explanation: Not testing prototypes can lead to costly mistakes later in development.

SECTION B — MEDIUM

20 MCQs

MCQ 16

Differentiate between a prototype and an MVP.

A. Prototype is preliminary; MVP is smallest functional version for real users

B. Prototype is for real users; MVP is for testing

C. Both are the same

D. Neither is used in product development

Correct Answer: A. Prototype is preliminary; MVP is smallest functional version for real users

Explanation: A prototype is a preliminary version for testing. An MVP is the smallest functional version for real users.

MCQ 17

Explain the concept of "Minimum Viable Product" (MVP). Why is it important to launch an MVP early?

A. Smallest version that delivers value; learn from real users

B. Final product; no learning needed

C. A type of prototype; no learning needed

D. A type of survey; no learning needed

Correct Answer: A. Smallest version that delivers value; learn from real users

Explanation: An MVP is the smallest version that delivers value. Launching early allows learning from real users.

MCQ 18

Describe any FOUR methods used to test prototypes.

A. Usability Testing, A/B Testing, Think-Aloud Protocol, Heuristic Evaluation

B. Only A/B Testing

C. Only Usability Testing

D. Only Think-Aloud Protocol

Correct Answer: A. Usability Testing, A/B Testing, Think-Aloud Protocol, Heuristic Evaluation

Explanation: Methods to test prototypes include Usability Testing, A/B Testing, Think-Aloud Protocol, and Heuristic Evaluation.

MCQ 19

Explain the importance of user feedback in product development. How does it help improve the product?

A. Reveals real problems; guides improvements

B. Not important

C. Only for final products

D. Only for marketing

Correct Answer: A. Reveals real problems; guides improvements

Explanation: User feedback reveals real problems and guides improvements.

MCQ 20

Describe any FOUR best practices for creating effective prototypes.

A. Start simple, focus on user, iterate quickly, document everything

B. Start complex, ignore user, iterate slowly, document nothing

C. Start simple, ignore user, iterate slowly, document nothing

D. Start complex, focus on user, iterate quickly, document nothing

Correct Answer: A. Start simple, focus on user, iterate quickly, document everything

Explanation: Best practices include starting simple, focusing on user, iterating quickly, and documenting everything.

MCQ 21

Explain the difference between low-fidelity and high-fidelity prototypes.

A. Low-fidelity is simple; high-fidelity is detailed

B. Low-fidelity is detailed; high-fidelity is simple

C. Both are the same

D. Neither is used in product development

Correct Answer: A. Low-fidelity is simple; high-fidelity is detailed

Explanation: Low-fidelity prototypes are simple and rough; high-fidelity prototypes are detailed and realistic.

MCQ 22

Describe any FOUR steps in testing prototypes.

A. Prepare, Recruit, Conduct, Collect

B. Prepare, Recruit, Conduct, Delete

C. Prepare, Recruit, Conduct, Encrypt

D. Prepare, Recruit, Conduct, Store

Correct Answer: A. Prepare, Recruit, Conduct, Collect

Explanation: Steps include preparing for testing, recruiting participants, conducting the testing, and collecting data.

MCQ 23

What is the output of the following code?

python

```
def greet(name="Guest"):
    print("Hello,", name)
greet()
greet("Ali")
```

A. Hello, Guest

Hello, Ali

B. Hello, Ali

Hello, Guest

C. Hello, Guest

Hello, Guest

D. Error

Correct Answer: A. Hello, Guest

Hello, Ali

Explanation: The default argument value is used when no argument is provided. When "Ali" is passed, it is used.

MCQ 24

What will be the output of the following code?

python

```
nums = [1, 2, 3, 4, 5]
nums2 = nums.copy()
nums2.append(6)
print(len(nums), len(nums2))
```

A. 5 5

B. 5 6

C. 6 6

D. 6 5

Correct Answer: B. 5 6

Explanation: `copy()` creates a new list. Appending to `nums2` does not affect `nums`.

MCQ 25

Which of the following is a characteristic of a good presentation?

A. Using only text

B. Accurate, clear, visually appealing, and audience-centered

C. Ignoring the audience

D. Cluttered with unnecessary details

Correct Answer: B. Accurate, clear, visually appealing, and audience-centered

Explanation: A good presentation is accurate, clear, visually appealing, and audience-centered.

MCQ 26

What is the primary purpose of a survey?

A. To delete data

B. To collect feedback, reviews, and opinions from targeted participants

C. To encrypt data

D. To store data

Correct Answer: B. To collect feedback, reviews, and opinions from targeted participants

Explanation: Surveys are used to collect feedback, reviews, and opinions from targeted participants.

MCQ 27

Which of the following is a characteristic of a good infographic?

A. Cluttered with unnecessary details

B. Accurate, visually appealing, and easy to understand

C. Using only text, no visuals

D. Ignoring the audience

Correct Answer: B. Accurate, visually appealing, and easy to understand

Explanation: A good infographic should be accurate, visually appealing, audience-understandable, and free from unnecessary details.

MCQ 28

What is the output of the following Python code?

python

```
import pandas as pd
data = pd.read_csv("tips.csv")
print(data.shape)
```

What does this code do?

A. Prints the first 5 rows

B. Prints the number of rows and columns

C. Prints the column names

D. Prints the data types

Correct Answer: B. Prints the number of rows and columns

Explanation: `data.shape` returns a tuple representing the number of rows and columns.

MCQ 29

Which of the following is NOT a source of reliable information?

A. Government websites (.gov)

B. Educational institutions (.edu)

C. Peer-reviewed journals

D. Anonymous social media posts

Correct Answer: D. Anonymous social media posts

Explanation: Anonymous social media posts are not reliable sources of information.

MCQ 30

What is the primary purpose of a histogram?

A. To show proportions

B. To show distribution of data

C. To show relationships between variables

D. To show trends over time

Correct Answer: B. To show distribution of data

Explanation: A histogram is used to represent data in the form of groups, showing the distribution of data.

MCQ 31

Which of the following is a negative environmental impact of increased connectivity?

A. Reduced travel

B. E-waste

C. Resource efficiency

D. Environmental monitoring

Correct Answer: B. E-waste

Explanation: E-waste is a negative environmental impact of increased connectivity.

MCQ 32

In the context of data presentation, which tool is a combination of text, images, and design elements?

A. Report

B. Presentation

C. Infographic

D. Table

Correct Answer: C. Infographic

Explanation: Infographics are a combination of text, images, and design elements.

MCQ 33

Which of the following is a key difference between a Public and Private Blockchain network?

A. Public is open to anyone; Private is managed by a single organization

B. Public is managed by a single organization; Private is open to anyone

C. Both are the same

D. Neither has security

Correct Answer: A. Public is open to anyone; Private is managed by a single organization

Explanation: Public Blockchain is open to anyone, while Private Blockchain is managed by a single organization with restricted access.

MCQ 34

Which of the following correctly describes "Resource Pooling" in cloud computing?

A. Resources are dedicated to one user

B. Resources are shared and pooled to serve multiple customers

C. Resources are stored offline

D. Resources are not scalable

Correct Answer: B. Resources are shared and pooled to serve multiple customers

Explanation: Resource pooling means computing resources are shared and dynamically adjust to meet demand from multiple customers.

MCQ 35

Which of the following correctly describes "Horizontal Scalability" in cloud computing?

A. Adding more resources to a single server

B. Increasing the number of servers to distribute workload

C. Reducing the number of servers

D. Storing data offline

Correct Answer: B. Increasing the number of servers to distribute workload

Explanation: Horizontal scalability (scaling out) means increasing the number of servers and distributing the workload among them.

SECTION C — HARD

15 MCQs

MCQ 36

A startup creates a simple website with basic features to test if users are interested in their product idea. This is an example of:

A. Final product launch

B. MVP

C. Full-scale production

D. Marketing campaign

Correct Answer: B. MVP

Explanation: An MVP is the smallest version of a product that delivers core value and allows the team to learn from real user feedback.

MCQ 37

Which of the following best describes a low-fidelity prototype?

A. Detailed, realistic, and interactive

B. Simple, rough, and quick to create

C. Used only for final testing

D. Requires advanced software

Correct Answer: B. Simple, rough, and quick to create

Explanation: Low-fidelity prototypes are simple, rough, and quick to create.

MCQ 38

When testing a prototype, "Think-Aloud Protocol" involves:

A. Users speaking their thoughts while using the prototype

B. Developers thinking about the design

C. Users writing their feedback after testing

D. Testing without any users

Correct Answer: A. Users speaking their thoughts while using the prototype

Explanation: Think-Aloud Protocol involves users speaking their thoughts while using the prototype.

MCQ 39

In the context of MVP, "validated learning" means:

A. Learning from books

B. Learning from real user feedback and data

C. Learning from competitors

D. Learning from theoretical models

Correct Answer: B. Learning from real user feedback and data

Explanation: Validated learning is the process of learning from real user feedback and data.

MCQ 40

Which of the following is NOT a characteristic of a good MVP?

A. Delivers core value

B. Has all possible features

C. Allows learning from real users

D. Is the smallest version that works

Correct Answer: B. Has all possible features

Explanation: An MVP should deliver core value, allow learning from real users, and be the smallest version that works. It should NOT have all possible features.

MCQ 41

A/B testing is used to:

A. Test two versions and determine which performs better

B. Test the alphabet

C. Avoid user feedback

D. Increase development time

Correct Answer: A. Test two versions and determine which performs better

Explanation: A/B testing is used to test two versions and determine which performs better.

MCQ 42

The primary goal of prototyping is to:

A. Finalize the product

B. Learn, test ideas, and gather feedback

C. Sell the product

D. Increase costs

Correct Answer: B. Learn, test ideas, and gather feedback

Explanation: The primary goal of prototyping is to learn, test ideas, and gather feedback.

MCQ 43

Which of the following is a key benefit of using high-fidelity prototypes?

A. They are quick to create

B. They provide realistic user testing and accurate feedback

C. They are cheap to make

D. They require no user involvement

Correct Answer: B. They provide realistic user testing and accurate feedback

Explanation: High-fidelity prototypes provide realistic user testing and accurate feedback.

MCQ 44

In MVP development, "scope creep" refers to:

A. Reducing features

B. Adding more features than necessary

C. Testing the product

D. Launching the product

Correct Answer: B. Adding more features than necessary

Explanation: Scope creep refers to adding more features than necessary, which can delay the MVP.

MCQ 45

Which of the following is a risk of NOT testing prototypes?

A. Finding problems early

B. Costly mistakes later in development

C. Improved user satisfaction

D. Faster development

Correct Answer: B. Costly mistakes later in development

Explanation: Not testing prototypes can lead to costly mistakes later in development.

MCQ 46

The "Build-Measure-Learn" loop is associated with:

A. Waterfall Model

B. Lean Startup methodology

C. Agile Model only

D. Traditional product development

Correct Answer: B. Lean Startup methodology

Explanation: The "Build-Measure-Learn" loop is associated with Lean Startup methodology.

MCQ 47

Which of the following best describes the relationship between prototypes and MVPs?

A. They are the same thing

B. Prototypes are for learning; MVPs are for real users

C. MVPs are for learning; prototypes are for real users

D. Neither is used in product development

Correct Answer: B. Prototypes are for learning; MVPs are for real users

Explanation: Prototypes are for learning; MVPs are for real users.

MCQ 48

What will be the output of the following code?

python

```
def calculate_average(nums):
    assert len(nums) > 0, "List cannot be empty"
    return sum(nums) / len(nums)

print(calculate_average([10, 20, 30]))
print(calculate_average([]))
```

A. 20.0 and 0

B. 20.0 and AssertionError

C. 20.0 and 0.0

D. AssertionError and AssertionError

Correct Answer: B. 20.0 and AssertionError

Explanation: The first call returns 20.0. The second call triggers the assertion because the list is empty, raising AssertionError.

MCQ 49

What will be the output of the following code?

python

```
squares = [x ** 2 for x in range(1, 6)]
print(squares)
```

A. [1, 4, 9, 16, 25]

B. [1, 2, 3, 4, 5]

C. [2, 4, 6, 8, 10]

D. [1, 8, 27, 64, 125]

Correct Answer: A. [1, 4, 9, 16, 25]

Explanation: The list comprehension calculates squares of numbers 1 to 5: $1^2=1$, $2^2=4$, $3^2=9$, $4^2=16$, $5^2=25$.

MCQ 50

What will be the output of the following code?

python

```
count = 0
def increment():
    global count
    count = count + 1
increment()
increment()
print(count)
```

A. 0

B. 1

C. 2

D. Error

Correct Answer: C. 2

Explanation: The `global` keyword allows the function to modify the global variable `count`. After two calls, count is 2.