Sw Engg

Section Id :	64065338360
Section Number :	13
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	100
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065380636
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 219 Question Id : 640653564850 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DEGREE LEVEL : SOFTWARE ENGINEERING (COMPUTER BASED EXAM)"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?
CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS REGISTERED BY YOU)

Options :

6406531888107. ✔ YES

6406531888108. ✱ NO

Sub-Section Number :	2
Sub-Section Id :	64065380637
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 220 Question Id : 640653564851 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

A software company has to develop a mobile game. The developers have already written the code. In the current phase, the team is conducting some procedures to ensure that the implemented code behaves according to the requirements. The mobile game is in what stage of the software development cycle?

Options :

6406531888109. ✱ Requirements gathering

6406531888110. ✱ Design

6406531888111. ✱ Development

6406531888112. ✔ Testing

6406531888113. ✱ Maintenance

Question Number : 221 Question Id : 640653564852 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Suppose a company wants to develop a web application for selling footwear online. During the requirement-gathering phase, the company wants to visit some popular footwear shops to explore what additional items they should sell along with the footwear using the same web application.

Which requirement-gathering technique can be used to list down recommendations for the additional items to sell?

Options :

6406531888114. ✱ Questionnaires

6406531888115. ✱ Interviews

6406531888116. ✱ Focus groups and workshops

6406531888117. ✔ Naturalistic observations

Question Number : 222 Question Id : 640653564854 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Which of the following UI heuristics allows the user to quickly correct mistakes and/or backtrack on the choices made?

Options :

6406531888123. ✱ Use familiar languages and metaphors

6406531888124. ✱ Clean and functional design

6406531888125. ✔ Freedom

6406531888126. ✱ Recognition over recall

Question Number : 223 Question Id : 640653564855 Question Type : MCQ Is Question

Correct Marks : 3

Question Label : Multiple Choice Question

Identify the appropriate technique to create `digital mock-ups`.

Options :

6406531888127. ✵ Using hand-drawn comics

6406531888128. ✵ Using a hand-drawn interface on multiple pieces of paper

6406531888129. ✔ Using software like Photoshop, Powerpoint

6406531888130. ✵ Using web applications with fake data

Question Number : 224 Question Id : 640653564861 Question Type : MCQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Consider two modules of a software project, `Module-X` and `Module-Y`. The project was developed in Java. Some codes in `Module-X` refer to the internals of `Module-Y`.

Identify the type of coupling in this case.

Options :

6406531888148. ✵ Data coupling

6406531888149. ✵ Control coupling

6406531888150. ✵ Common coupling

6406531888151. ✔ Content coupling

Question Number : 225 Question Id : 640653564865 Question Type : MCQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Flask is an example of ___ .

Options :

6406531888164. ✳ Text editor

6406531888165. ✳ Integrated development environment

6406531888166. ✔ Web application framework

6406531888167. ✳ Interpreter

Question Number : 226 Question Id : 640653564871 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

In what type of testing is the integrated system tested by a test team in an organization?

Options :

6406531888184. ✳ Integration testing

6406531888185. ✔ Alpha testing

6406531888186. ✳ Beta testing

6406531888187. ✳ Acceptance testing

Question Number : 227 Question Id : 640653564872 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Which deployment strategies maintain multiple instances of the production environment

(versions) and allow the users to choose which version to use?

Options :

6406531888188. ✱ Blue/Green deployment

6406531888189. ✱ Canary deployment

6406531888190. ✔ Versioned deployment

6406531888191. ✱ None of these

Question Number : 228 Question Id : 640653564874 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

How minifying the code can increase the efficiency of a website?

Options :

6406531888196. ✱ It results in fetching the pages from memory instead of the database.

6406531888197. ✱ It enables an asynchronous work queue to be executed outside the HTTP request-response cycle to perform some of the resource and time-consuming tasks.

6406531888198. ✔ It compresses the static pages and enables fast loading and rendering of pages.

6406531888199. ✱ It enables continuous performance monitoring of the website.

Question Number : 229 Question Id : 640653564876 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Which of the following teams in a software organization is responsible for all the tasks listed below?

- Find patterns in application usage.
- Track sales targets
- Analyze business data

Options :

6406531888204. ✳ Marketing team

6406531888205. ✳ Sales team

6406531888206. ✔ Data scientists

6406531888207. ✳ Ethics and policy specialists

6406531888208. ✳ Support Team

Sub-Section Number :	3
Sub-Section Id :	64065380638
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 230 Question Id : 640653564853 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

An investment firm wants to develop a mobile application, that the investors can use to search the current fund values of their investments. Consider a user story for the application.

```
1  Feature: Retrieve fund value
2
3  As an investor,
4
5  I want to search for my investments,
6
7  So that I can get the combined fund value of the investments.
```

The user story is rectified as follows:

```
1  Feature: Retrieve fund value
2
3  As an investor,
4
5  I want to search for my investments through the investment account numbers,
6
7  So that I can get the combined fund value for the investments.
```

Which of the SMART characteristics is achieved by the rectification?

Options :

6406531888118. ✔ Specific

6406531888119. ✖ Measurable

6406531888120. ✖ Achievable

6406531888121. ✖ Relevant

6406531888122. ✖ Timeboxed

Question Number : 231 Question Id : 640653564860 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

A software company has to develop a task planner application. The application has 3 modules. The modules and the estimated number of lines of source code are given as follows:

- Task creation - 40000 LOC
- Task allocation - 50000 LOC
- Alert generation - 30000 LOC

The team formed for development is moderate in size and the members are a mix of experienced and inexperienced people.

The values for the constants in the COCOMO model for the different types of the project are given below:

- Organic project: a = 2.4, b = 1.05
- Semi-detached project: a = 3.0, b = 1.12
- Embedded project: a = 3.6, b = 1.20

What is the initial estimated effort for the project?

Options :

6406531888144. ✖ 365.89 person months

6406531888145. ✔ 639.45 person months

6406531888146. ✖ 1,125.43 person months

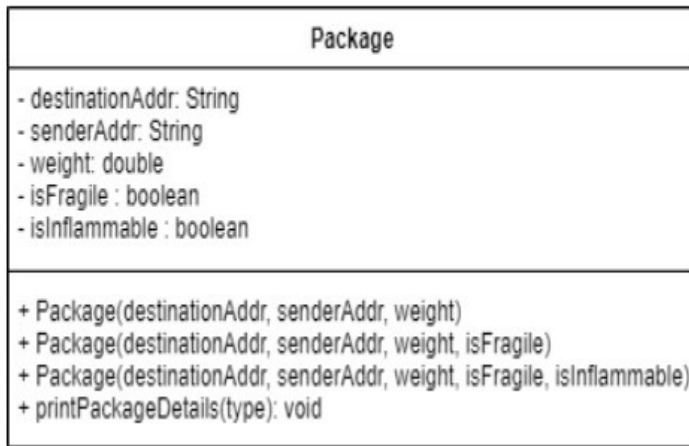6406531888147. ✖ 14,64,887.42 person months

Question Number : 232 Question Id : 640653564863 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0
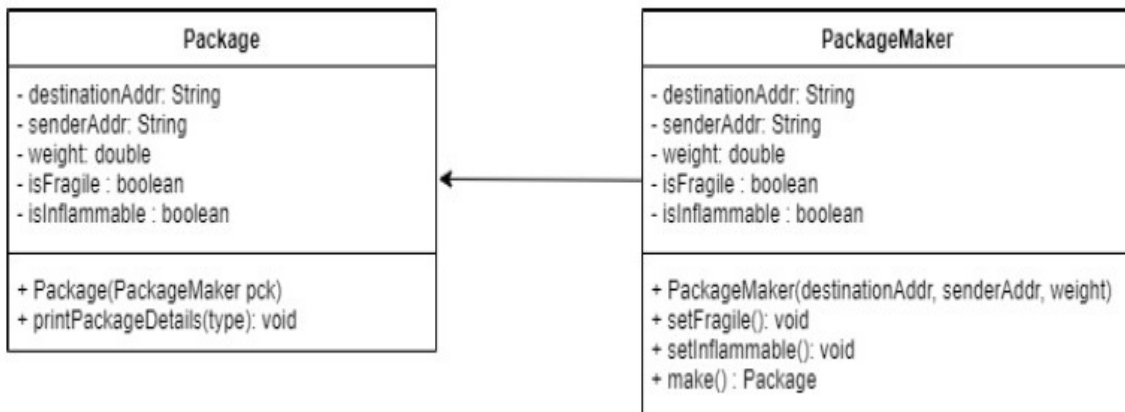
Correct Marks : 5

Question Label : Multiple Choice Question

Consider the following class diagram representing a class *Package*.

Package
- destinationAddr: String - senderAddr: String - weight: double - isFragile : boolean - isInflammable : boolean
+ Package(destinationAddr, senderAddr, weight) + Package(destinationAddr, senderAddr, weight, isFragile) + Package(destinationAddr, senderAddr, weight, isFragile, isInflammable) + printPackageDetails(type): void

We apply a design pattern ⬚x and the redesigned class diagram is as given below:

Package
- destinationAddr: String - senderAddr: String - weight: double - isFragile : boolean - isInflammable : boolean
+ Package(PackageMaker pck) + printPackageDetails(type): void

PackageMaker
- destinationAddr: String - senderAddr: String - weight: double - isFragile : boolean - isInflammable : boolean
+ PackageMaker(destinationAddr, senderAddr, weight) + setFragile(): void + setInflammable(): void + make() : Package

Identify the design pattern referred to as ⬚x .

Options :

6406531888156. ✖ Factory design pattern

6406531888157. ✔ Builder design pattern

6406531888158. ✖ Adapter design pattern

6406531888159. ✖ Facade design pattern

Question Number : 233 Question Id : 640653564870 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

Consider the following code base in Python.

```
1    def getDiscount(price):
2        if price <= 0:
3            print("Invalid input")
4            discount = 0
5        elif price < 2000:
6            discount = price * 0.1
7        else:
8            discount = price * 0.2
9        return discount
```

Identify the set of valid test cases for black box testing using the equivalence class technique.

Options :

6406531888180. � {price = 0, price = 2000}

6406531888181. � {price = -10, price = 0, price = 1200}

6406531888182. ✔ {price = 0, price = 1800, price = 3800}

6406531888183. � {price = -10, price = 0, price = 1010, price = 1999}

Question Number : 234 Question Id : 640653564878 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

The current version of the local branch of your repository is given below. You have made some changes to the files `scan.py` and `run.py`.

```
1   $ tree
2   .
3   |-- config
4   |   |-- initial.config
5   |-- log.py
6   |-- main.py
7   |-- scan.py
8   |-- run.py
9
10  1 directory, 5 files
```

Consider the below command output that gives the current status of your local repository. It shows that you have edited some files but have not added them to the staging area.

```
1   $ git status
2   On branch master
3   Untracked files:
4     (use "git add <file>..." to include in what will be committed)
5           log.py
6           scan.py
7           run.py
8
9   nothing added to commit but untracked files present (use "git add" to track)
```

You wish to finally push your changes to the remote branch. What sequence of the below commands can be executed to push your local changes to the remote branch? (Given below are just the commands for simplicity, without the arguments.)

I. git clone
II. git push
III. git pull
IV. git add
V. git commit

Options :

6406531888213. ✖ I --> V --> IV --> II

6406531888214. ✖ I --> III --> II --> IV --> V

6406531888215. ✔ IV --> V --> II

6406531888216. ✖ III --> II --> V

Question Number : 235 Question Id : 640653564856 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Suppose you are using an application to access cloud storage, where you can backup your files from your laptops, computers, or smartphones. The application includes a feature that allows you to recover accidentally deleted files from a separate trash drive.

This feature achieves which of the following usability goals?

Options :

6406531888131. ✱ Efficiency

6406531888132. ✱ Effectiveness

6406531888133. ✔ Safe to use

6406531888134. ✱ Learnability

6406531888135. ✱ Memorability

Question Number : 236 Question Id : 640653564862 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider designing an application for playing songs. Using the application, users can create or update playlists. A playlist consists of a number of songs. There are two kinds of songs that are available -- classical and nonclassical.

Suppose a designer wants to generate a class diagram from the description. Let the identified classes be `User`, `PlayList`, `Song`, `Classical`, and `NonClassical`. Consider the relation between `PlayList` and `Song` as `X`, and between `Classical` and `Song` as `Y`. Identify `X` and `Y`.

Options :

6406531888152. ✻ X: association, Y: Composition

6406531888153. ✻ X: association, Y: Inheritance

6406531888154. ✔ X: Composition, Y: Inheritance

6406531888155. ✻ X: Composition, Y: association

Question Number : 237 Question Id : 640653564864 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

During debugging a third-party API, the development team consults the available documentation and example codes for a proper understanding of the usage of the API. Which kind of debugging strategy is considered in this case?

Options :

6406531888160. ✻ Input manipulation

6406531888161. ✻ Backwards debugging

6406531888162. ✻ Forwards debugging

6406531888163. ✔ Blackbox debugging

Question Number : 238 Question Id : 640653564866 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

Consider designing a web application where there is a class named `Calculator` with methods providing basic arithmetic operations: `addition()`, `subtraction()`, `multiplication()`, `division()`, and `remainder()`.

However, the customer has additional requirements that will necessitate some statistical operations on the class `Calculator`. The designer considered an approach where he directly adds the advanced methods: `mean()`, `median()`, `st_division()`, and `variance()` to the existing `Calculator` class.

Which of the following SOLID principles is violated by this design approach for the class Calculator?

Options :

6406531888168. ✖ Single responsibility principle

6406531888169. ✔ Open-closed principle

6406531888170. ✖ Liskov substitution principle

6406531888171. ✖ Interface segregation principle

Question Number : 239 Question Id : 640653564873 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

A company InitX has developed a web application. For hosting the web application, the company has purchased all the required hardware. Which kind of hosting option has the company chosen?

Options :

6406531888192. ✔ Bare metal servers

6406531888193. ✖ Infrastructure-as-a-service

6406531888194. ✖ Platform-as-a-service

6406531888195. ✖ None of these

Question Number : 240 Question Id : 640653564877 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

What is the primary responsibility of the product owner in a scrum team?

Options :

6406531888209. � Monitoring and ensuring that all the activities of a given sprint are properly performed.

6406531888210. ✔ Interfacing between the clients and the development team.

6406531888211. ✖ Participating in sprint planning.

6406531888212. ✖ Preparing product backlog.

Sub-Section Number :	5
Sub-Section Id :	64065380640
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 640653564857 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (241 to 242)

Question Label : Comprehension

A software company has taken up a project to develop an application related to telecommunications. However, after the project was started, the project manager found out that the team members did not have the sufficient domain knowledge to develop the software.

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 241 Question Id : 640653564858 Question Type : MCQ Is Question

Correct Marks : 4

Question Label : Multiple Choice Question

Identify the type of risk in the given scenario.

Options :

6406531888136. ✷ Technical risk

6406531888137. ✔ Project risk

6406531888138. ✷ Business risk

6406531888139. ✷ None of these

Question Number : 242 Question Id : 640653564859 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Selectable Option : 0

Question Label : Multiple Select Question

Which of the following can help in mitigating the risk identified from the previous question?

Options :

6406531888140. ✔ Hire developers with relevant experience, within the company, or outside the company

6406531888141. ✷ Communicate with clients, and build prototypes

6406531888142. ✷ Explore the market for similar products

6406531888143. ✔ Outsource to third-party vendors

Sub-Section Number :	6
Sub-Section Id :	64065380641
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Id : 640653564867 Question Type : COMPREHENSION Sub Question Shuffling

Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (243 to 244)

Question Label : Comprehension

Consider the following code base in Python.

```python
1  def checkEligibility(year):
2      if((year % 400 == 0) or ((year % 100 != 0) and  (year % 4 == 0))):
3          print("it is a leap year")
4      else:
5          print("it is not a leap year")
```

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 243 Question Id : 640653564868 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 5 Selectable Option : 0

Question Label : Multiple Select Question

Using the branch coverage criteria, identify all the appropriate sets of valid test cases for whitebox testing.

Options :

6406531888172. ✖ {year = 2200, year = 657}

6406531888173. ✔ {year = 2000, year = 1755}

6406531888174. ✔ {year = 2000, year = 2200, year = 1755}

6406531888175. ✔ {year = 2000, year = 2200, year = 2022}

Question Number : 244 Question Id : 640653564869 Question Type : MSQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 4 Selectable Option : 0

Question Label : Multiple Select Question

Which kinds of integration testing approaches must require the use of drivers?

Options :

6406531888176. ✻ Big Bang approach

6406531888177. ✔ Bottom-Up approach

6406531888178. ✻ Top-down approach

6406531888179. ✔ Mixed approach

Sub-Section Number :	7
Sub-Section Id :	64065380642
Question Shuffling Allowed :	Yes
Is Section Default? :	null

Question Number : 245 Question Id : 640653564875 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Selectable Option : 0

Question Label : Multiple Select Question

Which of the following are the benefits of continuous integration?

Options :

6406531888200. ✔ Reduces deployment time

6406531888201. ✻ No initial effort is required to set up the process

6406531888202. ✔ Users can see the initial prototype

6406531888203. ✻ Discourage modular coding