## Key Examination points

- Exam Duration – 75 Minutes
- Total number of questions 50
- Passing percentage 70
- No Negative marking
- Selenium 4.X questions would be part of the assessment
- Selenium eco system questions as per the learning objective will be part of the assessment
- This mock paper has only 20 questions for reference
- CP-SAT Foundation Questions would be from the following Selenium Eco-System Categories
    - o Docker
    - o Generic / Scenario based
    - o Git
    - o Grid
    - o Junit
    - o Locator
    - o Maven
    - o SIDE
    - o TestNG
    - o WebDriver

Weightage of categories in CP-SAT Foundation exam is as follows
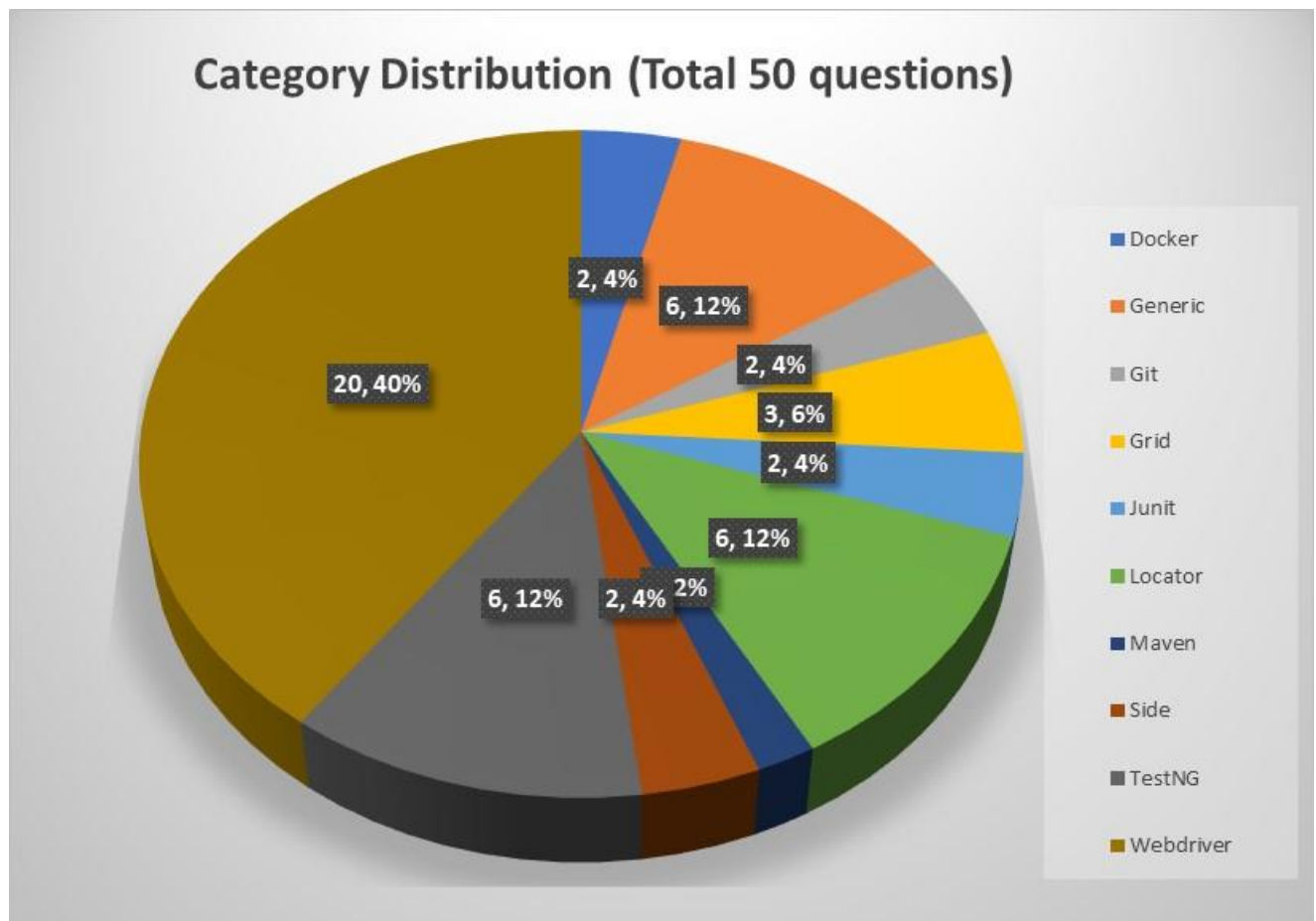
This mock paper is having only 20 questions and the category distribution may not be the same as that of the actual exam.

Question 1

The Selenium Grid in Selenium version 4 no longer has a hub

    A) True

    B) False

Question 2

what is the first step for installation of Selenium grid (3.x)?

A)   Start Hub

B)   Configure Hub

C)   Start Node

D)   Configure Node

Question 3

Docker is not the only container mechanism there are others.

A)   FALSE

B)   TRUE

Question 4

Which command is used in docker to stop a running container?

A)   docker stop

B)   docker kill

C)   docker rm

D)   docker halt

Question 5

back(), forward(), refresh() are methods of which class or interface

A) WebDriver

B) WebDriver.Navigation

C) WebDriver.Options

D) WebDriver.Window

Question 6

WebDriver.Window has which of the following methods

Release date 2nd August 2022 version 1.0

i. fullscreen()
ii. getPosition()
i. maximize()
ii. back()
iii. forward()
iv. getWindowHandles()

A > i,ii,iii,iv,v and vi all are correct methods for WebDriver.Window
B > iii, iv,v, vi are the only correct methods for WebDriver.Window
C > Except vi) all are correct methods for WebDriver.Window
D > Only i,ii,iii are correct methods for WebDriver.Window

Question 7
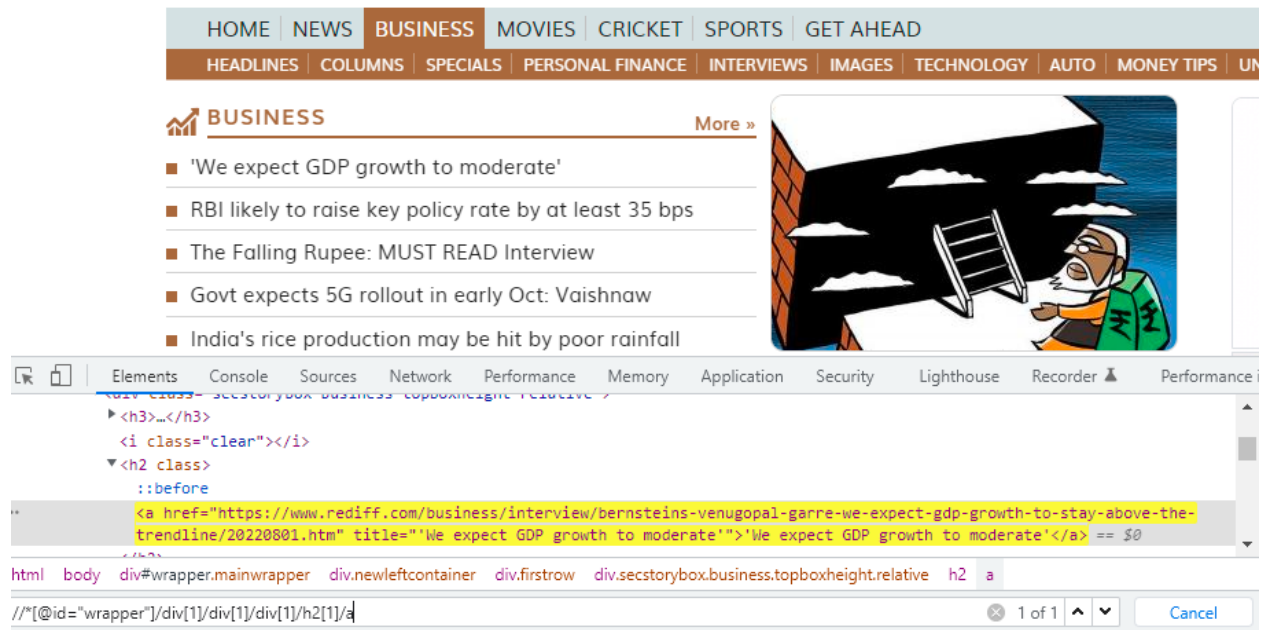
Please refer the following images

Image 7.1
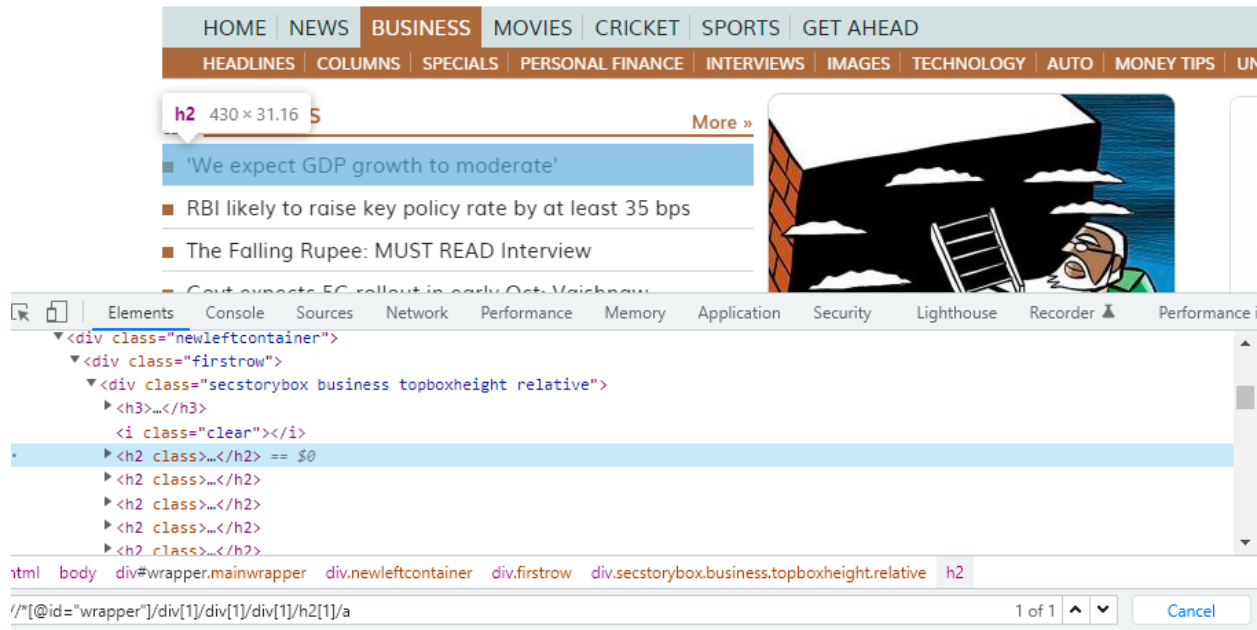

Image 7.1

Which of the following code snippets would capture the <h2> heading 2 displayed text for all the headlines

    i)   //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2/a/text()
    ii) //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2[1]/a/text()
    iii) //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2[*]/a/text()
    iv) //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2[#]/a/text()
    v) //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2[2,3,4,5]/a/text()

A) All the options are correct
B) Only i) is correct
C) Only i) and iii) are correct
D) Only i), iii) and v) are correct

Question 8

What would the following code do

InternetExplorerOptions options = new InternetExplorerOptions();

options.destructivelyEnsureCleanSession();

WebDriver driver = new RemoteWebDriver(options);

A) It is not allowed. The method is `destructivelyEnsureCleanSession()`is deprecated

B) It will not do anything, this method is overridden

C) This code would work as intended and clear the Cache, Browser History and Cookies for all running instances of InternetExplorer including those started manually or by the driver

D) This code would work as intended and ensures a clean grid session for IE

Question 9

git push -u origin <branch-name>

A)   This command will push data to master branch

B)   This command will push data to a branch <branch-name>

C)   This command will push data to branch called as origin

D)   This command will create a new repository

Question 10

Selenium 4 offers a new way of locating elements by using natural language terms such as

i "above"

ii "below"

iii "left of"

iv "right of"

v "near"

vi "adjacent to"

vii "behind"

viii "in front of"

A. All the terms above are relevant and are present in Selenium 4

B. Except vi,vii,viii all are relevant and are present in Selenium 4

C. i,ii,v,vii are relevant and are present in Selenium 4

D. None of te terms above are relevant and are not present in Selenium 4

Question 11

```
public interface IRetryAnalyzer {

  /**
   * Returns true if the test method has to be retried, false otherwise.
   *
   * @param result The result of the test method that just ran.
   * @return true if the test method has to be retried, false otherwise.
   */
  public boolean retry(ITestResult result);
}
```

    i)   This method implementation should return true if you want to re-execute your failed test and false if you don't want to re-execute your test

   ii) Usually the implementation of this interface decides on how many times to retry a failed tests based on a fixed counter or a complex logic based on your requirements

A) This is a TestNG interface and both i) and ii) are correct
B) This is a WebDriver interface and is used to retry the find element (if not found)
C) Both i) and ii) are incorrect
D) Only ii) is correct

Question 12

Following code

```java
@Test
public void test() throws InterruptedException {
// saving the GUI element reference into a "element" variable of WebElement type
WebElement element = driver.findElement(By.id("Email"));
// entering username
element.sendKeys("dummy@gmail.com");
element.sendKeys(Keys.RETURN);
// entering password
driver.findElement(By.id("Passwd")).sendKeys("password");
// clicking signin button
driver.findElement(By.id("signIn")).click();
// explicit wait - to wait for the compose button to be click-able
WebDriverWait wait = new WebDriverWait(driver,30);
wait.until(ExpectedConditions.visibilityOfElementLocated(By.xpath("//div[contains(text(),'COMPOSE')]")));
// click on the compose button as soon as the "compose" button is visible
driver.findElement(By.xpath("//div[contains(text(),'COMPOSE')]")).click();
}
```

The above code instructs

i)   Selenium WebDriver to wait for 30 seconds before throwing a TimeoutException.
ii) If it finds the element before 30 seconds, then it will return immediately. After that, it will click on the "Compose" button. In this case, the program will not wait for the entire 30 seconds, thus saving time and executing the script faster.

A) The i) is incorrect and ii) is correct. It will throw ElementNotVisible exception
B) Both i) and ii) are correct
C) Both i) and ii) are incorrect – it will throw ExplicitWaitException and program will not run
D) Only i) is correct and ii) is Incorrect – program will always throw exception

Question 13

```
public void login() {
System.setProperty("webdriver.chrome.driver", "path");
WebDriver driver = new ChromeDriver();
JavascriptExecutor js = (JavascriptExecutor)driver;
driver.manage().window().maximize();
driver.get("https://www.browserstack.com/users/sign_in");
js.executeScript("document.getElementById('user_email_login').value='rbc@xyz.com';");
js.executeScript("document.getElementById('user_password').value='password';");
js.executeScript("document.getElementById('user_submit').click();");
js.executeScript("alert('enter correct login credentials to continue');");
sleep(2000);
}
```

i)   Once the code runs, Selenium will automatically navigate to the URL mentioned.

ii)   First, the driver will open the browser and the URL.

iii)   After that, the credentials will be entered using the JavascriptExecutor's executeScript method.

iv)   Finally, the login button is clicked.

v)   In the end, a pop-up will appear stating the message written in the alert() method.

A)   All the above i) ii) iii) iv) and v) are correct and the order of execution is also ii), i), iii), iv), v

B)   All the above i) ii) iii) iv) and v) are correct and the order of execution is also v), ii), i), iii), iv)

C)   All the above i) ii) iii) iv) and v) are correct and the order of execution is also i), ii), iv), iii), v

D)   All the above i) ii) iii) iv) and v) are correct and the order of execution is also i), ii), iii), iv), v

Question 14

i)   ***getWindowHandle(): With this method, we get a unique ID of the current window which will identify it within this driver instance. This method will return the value of the String type.***

ii)   ***getWindowHandles( ): With this method, we get the IDs of all the windows opened by the web driver. Its return type is Set .***

iii)   ***switchTo(): Using this method, we can perform switch operations within windows.***

A)   ii) is False, as getWindowHandles() return a LIST not a SET, rest i) and iii) are TRUE

B)   All i) ii) and iii) are TRUE

C)   Only i) is FALSE

D)   Only iii) is False

Question 15

Which annotation of Junit 5 is similar to DataProvider of TestNG?

       A)   @ParameterizedTest

       B)   @Parameters

       C)   @TestParams

       D)   @ValueSource

Question 16

WebDriver interface has multiple inner interfaces which contains methods related to specific events.

i)   **ImeHandler – An interface for managing input methods.**
ii)   **Navigation – An interface for provide mechanism to access browser history.**
iii)   **Options – An interface for managing stuff you would do in a browser menu**
iv)   **TargetLocator – Used to locate a given frame or window.**
v)   **Timeouts – An interface for managing timeout behavior for WebDriver instances.**
vi)   **Window – An interface to manage browser window actions like maximize, minimize etc.**

A) All i),ii),iii),iv),v and vi) are valid inner interfaces of WebDriver
B) iv) is not an inner interface of WebDriver
C) vi) Window is not an inner interface of WebDriver
D) Except iv) and vi) all are valid inner interfaces of WebDriver

Question 17

i)   **UnexpectedTagNameException**: Happens if a support class did not get a web element as expected.
ii)   **UnhandledAlertException**: It happens when there is an alert, but WebDriver is unable to perform Alert operation.
iii)   **UnknownMethodException**: Thrown when the requested command matches with a known URL but not matching with a methodology for that URL.
iv)   **UnreachableBrowserException**: This Selenium exception happens if the browser is unable to be opened or has crashed because of some reasons.
v)   **UnsupportedCommandException**: Occurs when remote WebDriver does not send valid commands as expected.

A) Except v) all are valid Selenium Exception

B) Except iii) all are valid Selenium Exception
C) None of these are valid Selenium Exception
D) All are valid Selenium Exceptions

Question 18

The ChromeDriver class starts the ChromeDriver server process at creation and terminates it when quit is called. This can waste a significant amount of time for large test suites where a ChromeDriver instance is created per test. There are two options to remedy this:

i) Use the ChromeDriverService. This is available for most languages and allows you to start/stop the ChromeDriver server yourself.

ii) Start the ChromeDriver server separately before running your tests, and connect to it using the Remote WebDriver.

A) ChromeDriver server process creation and destruction is not at all wastage of time hence we do not want to remedy this
B) ChromeDriver server process creation and destruction can result in significant amount of time hence Option i) is a good remedy. Option ii) is not a good remedy as it is used in selenium grid to connect to remote grid server
C) ChromeDriver server process creation and destruction can result in significant amount of time hence Option i) is a good remedy. Option ii) is also a good remedy
D) ChromeDriver class does not create a server at all

Question 19

Please see the following code

try{ // Line 1

  if(driver.findElement(By.xpath("xpath_of_the_desired_element")).isDisplayed()) // Line 2

    System.out.println("is Displayed returns True"); // Line 3

  else // Line 4

    System.out.println("is Displayed returns False"); // Line 4

}catch (NoSuchElementException e) { // Line 5

  System.out.println("NoSuchElementException is thrown"); // Line 6

} // Line 7

// Line 4 will get executed when

A) Element is present and displayed
B) Element is present but not displayed
C) Element is not present, hence not displayed as well
D) Line 4 will never get executed

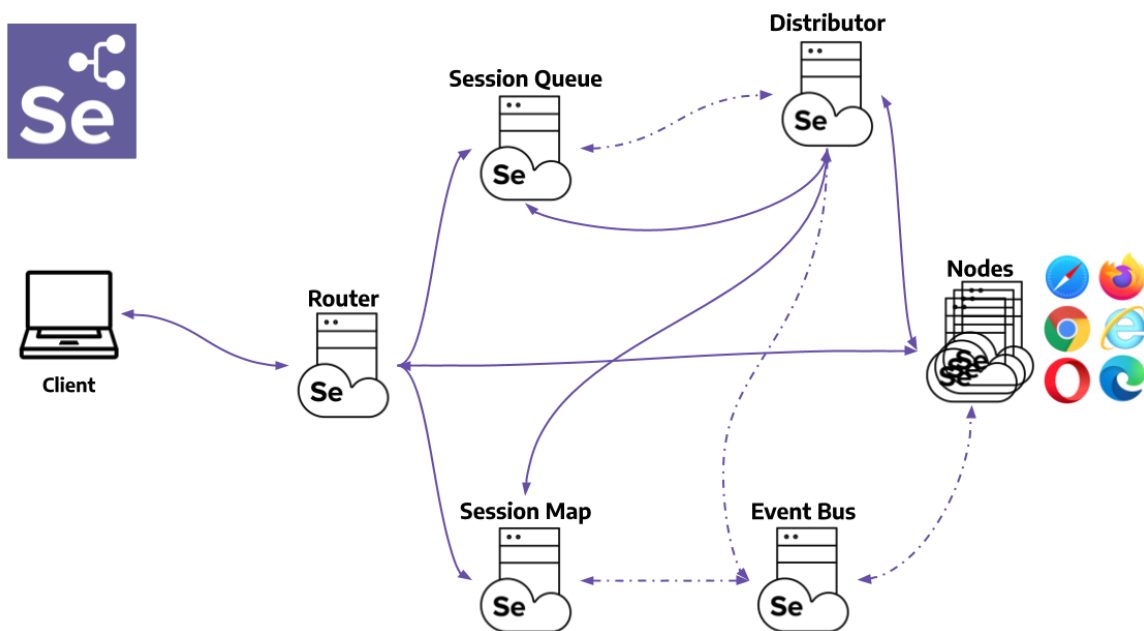**Question 20**

FirefoxProfile profile = new FirefoxProfile();

A) FirefoxProfile is valid class and is a collection of settings, customization, add-ons and other personalization settings that can be done on the Firefox Browser in Selenium
B) FirefoxProfile is used for creating a Firefox session using Selenium
C) FirefoxProfile is not a valid class in Selenium 4.x
D) FirefoxProfile is not a valid class in Selenium 3.x

The Selenium Grid in Selenium version 4 no longer has a hub

A) True

B) False

Question 1. Correct answer is A)

The new architecture in Selenium Grid is as below

Question 2

what is the first step for installation of Selenium grid (3.x)?

A)   Start Hub

B)   Configure Hub

C)   Start Node

D)   Configure Node

Reference

https://www.selenium.dev/documentation/legacy/selenium_3/grid_setup/

First step in grid installation in to start the hub

Step 1: Start the Hub

Question 3

Docker is not the only container mechanism there are others.

A)   FALSE

B)   TRUE

Buildah, BuildKit, Containerd, LXD may be other open source container mechanism options that are existing.

Question 4

Which command is used in docker to stop a running container?

A)   docker stop

B)   docker kill

C)   docker rm

D)   docker halt

Correct Answer is A)

Reference:

docker stop

Stop one or more running containers

https://docs.docker.com/engine/reference/commandline/stop/

Question 5

back(), forward(), refresh() are methods of which class or interface

A) WebDriver

B) WebDriver.Navigation

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C) WebDriver.Options

D) WebDriver.Window

Correct Answer is B)

Reference
https://www.selenium.dev/selenium/docs/api/java/org/openqa/selenium/WebDriver.Navigation.html

Question 6

WebDriver.Window has which of the following methods

i.	fullscreen()
ii.	getPosition()
iii.	maximize()
iv.	back()
v.	forward()
vi.	getWindowHandles()

A i,ii,iii,iv,v and vi all are correct methods for WebDriver.Window
B iii, iv,v, vi are the only correct methods for WebDriver.Window
C Except vi) all are correct methods for WebDriver.Window
D Only i,ii,iii are correct methods for WebDriver.Window

Correct Answer is D)

Reference
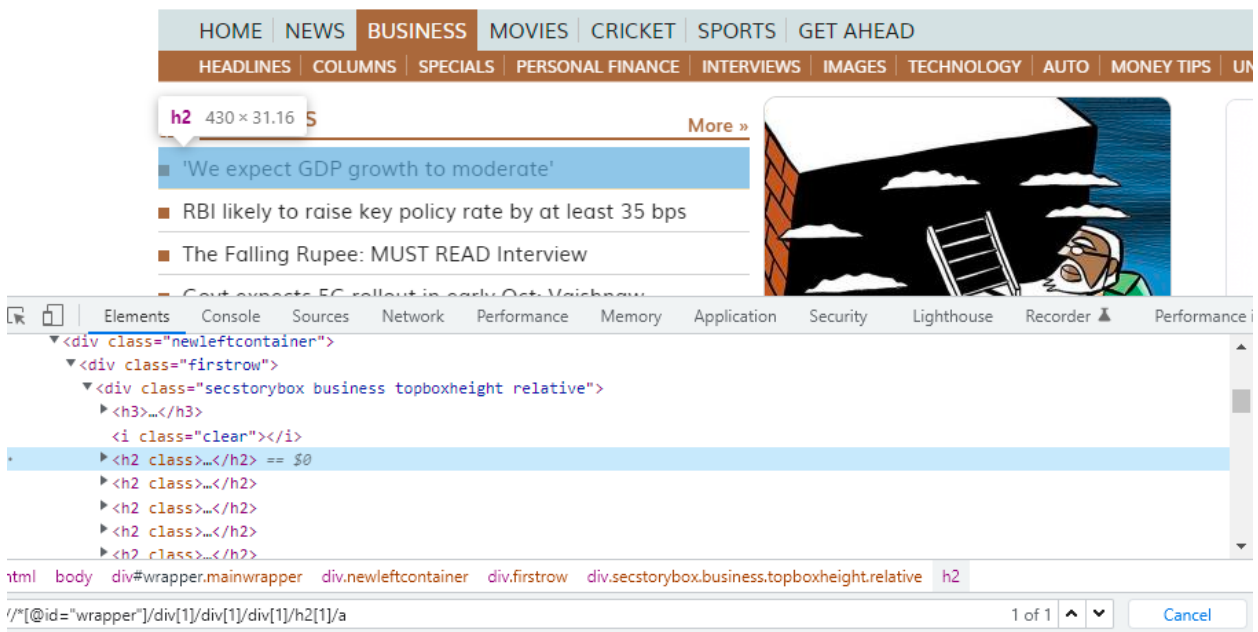https://www.selenium.dev/selenium/docs/api/java/org/openqa/selenium/WebDriver.Window.html

Question 7

Please refer the following images

Image 7.1

Image 7.1

Which of the following code snippets would capture the <h2> heading 2 displayed text for all the headlines

i)   //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2/a/text()
ii) //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2[1]/a/text()
iii) //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2[*]/a/text()
iv) //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2[#]/a/text()

v) //*[@id="wrapper"]/div[1]/div[1]/div[1]/h2[2,3,4,5]/a/text()

A) All the options are correct
B) Only i) is correct
C) Only i) and iii) are correct
D) Only i), iii) and v) are correct

Correct answer is C)

Question 8

What would the following code do

InternetExplorerOptions options = new InternetExplorerOptions();

options.destructivelyEnsureCleanSession();

WebDriver driver = new RemoteWebDriver(options);

A) It is not allowed. The method is `destructivelyEnsureCleanSession()is deprecated`
B) It will not do anything, this method is overridden
C) This code would work as intended and clear the Cache, Browser History and Cookies for all running instances of InternetExplorer including those started manually or by the driver
D) This code would work as intended and ensures a clean grid session for IE

Correct answer is C)

Reference : https://www.selenium.dev/documentation/webdriver/capabilities/internet_explorer/

Question 9

git push -u origin <branch-name>

A)   This command will push data to master branch

B)   This command will push data to a branch <branch-name>

C)   This command will push data to branch called as origin

D)   This command will create a new repository

Correct answer is B)

Question 10

Selenium 4 offers a new way of locating elements by using natural language terms such as

i "above"

ii "below"

iii "left of"

iv "right of"

v "near"

vi "adjacent to"

vii "behind"

viii "in front of"

A. All the terms above are relevant and are present in Selenium 4

B. Except vi,vii,viii all are relevant and are present in Selenium 4

C. i,ii,v,vii are relevant and are present in Selenium 4

D. None of te terms above are relevant and are not present in Selenium 4

Correct answer is B)

Reference https://www.selenium.dev/documentation/webdriver/elements/locators/

Question 11

```java
public interface IRetryAnalyzer {

  /**
   * Returns true if the test method has to be retried, false otherwise.
   *
   * @param result The result of the test method that just ran.
   * @return true if the test method has to be retried, false otherwise.
   */
  public boolean retry(ITestResult result);
}
```

   i)   This method implementation should return true if you want to re-execute your failed test and false if you don't want to re-execute your test

ii) Usually the implementation of this interface decides on how many times to retry a failed tests based on a fixed counter or a complex logic based on your requirements

A) This is a TestNG interface and both i) and ii) are correct
B) This is a WebDriver interface and is used to retry the find element (if not found)
C) Both i) and ii) are incorrect
D) Only ii) is correct

Correct answer is A)

Reference:

https://www.javadoc.io/doc/org.testng/testng/7.0.0/org/testng/IRetryAnalyzer.html

https://www.toolsqa.com/testng/implement-iretryanalyzer-to-retry-failed-test-in-testng-framework/

Question 12

Following code

```
@Test
public void test() throws InterruptedException {
// saving the GUI element reference into a "element" variable of WebElement type
WebElement element = driver.findElement(By.id("Email"));
// entering username
element.sendKeys("dummy@gmail.com");
element.sendKeys(Keys.RETURN);
// entering password
driver.findElement(By.id("Passwd")).sendKeys("password");
// clicking signin button
driver.findElement(By.id("signIn")).click();
// explicit wait - to wait for the compose button to be click-able
WebDriverWait wait = new WebDriverWait(driver,30);
wait.until(ExpectedConditions.visibilityOfElementLocated(By.xpath("//div[contains(text(),'COMPOSE')]")));
// click on the compose button as soon as the "compose" button is visible
driver.findElement(By.xpath("//div[contains(text(),'COMPOSE')]")).click();
}
```

The above code instructs

i) Selenium WebDriver to wait for 30 seconds before throwing a TimeoutException.
ii) If it finds the element before 30 seconds, then it will return immediately. After that, it will click on the "Compose" button. In this case, the program will not wait for the entire 30 seconds, thus saving time and executing the script faster.

A) The i) is incorrect and ii) is correct. It will throw ElementNotVisible exception
B) Both i) and ii) are correct
C) Both i) and ii) are incorrect – it will throw ExplicitWaitException and program will not run
D) Only i) is correct and ii) is Incorrect – program will always throw exception

Correct answer is B)

Reference:

https://www.browserstack.com/guide/wait-commands-in-selenium-webdriver

Question 13

```
public void login() {
System.setProperty("webdriver.chrome.driver", "path");
WebDriver driver = new ChromeDriver();
JavascriptExecutor js = (JavascriptExecutor)driver;
driver.manage().window().maximize();
driver.get("https://www.browserstack.com/users/sign_in");
js.executeScript("document.getElementById('user_email_login').value='rbc@xyz.com';");
js.executeScript("document.getElementById('user_password').value='password';");
js.executeScript("document.getElementById('user_submit').click();");
js.executeScript("alert('enter correct login credentials to continue');");
sleep(2000);
}
```

i)   Once the code runs, Selenium will automatically navigate to the URL mentioned.
ii)   First, the driver will open the browser and the URL.
iii)   After that, the credentials will be entered using the JavascriptExecutor's executeScript
        method.
iv)   Finally, the login button is clicked.
v)   In the end, a pop-up will appear stating the message written in the alert() method.

A) All the above i) ii) iii) iv) and v) are correct and the order of execution is also ii), i), iii), iv), v
B) All the above i) ii) iii) iv) and v) are correct and the order of execution is also v), ii), i), iii), iv)
C) All the above i) ii) iii) iv) and v) are correct and the order of execution is also i), ii), iv), iii), v
D) All the above i) ii) iii) iv) and v) are correct and the order of execution is also i), ii), iii), iv), v

Correct answer is D)

Release date 2nd August 2022 version 1.0

Reference:

https://www.browserstack.com/guide/javascriptexecutor-in-selenium

Question 14

    i)   **getWindowHandle(): With this method, we get a unique ID of the current window which will identify it within this driver instance. This method will return the value of the String type.**

    ii)   **getWindowHandles( ): With this method, we get the IDs of all the windows opened by the web driver. Its return type is Set .**

    iii)   **switchTo(): Using this method, we can perform switch operations within windows.**

    A)   ii) is False, as getWindowHandles() return a LIST not a SET, rest i) and iii) are TRUE

    B)   All i) ii) and iii) are TRUE

    C)   Only i) is FALSE

    D)   Only iii) is False

Correct Ans is B)

Question 15

Which annotation of Junit 5 is similar to DataProvider of TestNG?

    A)   @ParameterizedTest

    B)   @Parameters

    C)   @TestParams

    D)   @ValueSource

Correct answer is A)

Reference : https://www.baeldung.com/parameterized-tests-junit-5

Question 16

WebDriver interface has multiple inner interfaces which contains methods related to specific events.

    i)   **ImeHandler – An interface for managing input methods.**
    ii)   **Navigation – An interface for provide mechanism to access browser history.**
    iii)   **Options – An interface for managing stuff you would do in a browser menu**
    iv)   **TargetLocator – Used to locate a given frame or window.**
    v)   **Timeouts – An interface for managing timeout behavior for WebDriver instances.**
    vi)   **Window – An interface to manage browser window actions like maximize, minimize etc.**

A) All i),ii),iii),iv),v and vi) are valid inner interfaces of WebDriver
B) iv) is not an inner interface of WebDriver
C) vi) Window is not an inner interface of WebDriver
D) Except iv) and vi) all are valid inner interfaces of WebDriver

Correct Answer is A)

Reference:

http://makeseleniumeasy.com/2017/04/02/hierarchy-of-selenium-classes-and-interfaces/

Question 17

Please see the following exceptions and the reasons when these exceptions happen.

    i)   **UnexpectedTagNameException**: Happens if a support class did not get a web element as expected.
    ii)   **UnhandledAlertException**: It happens when there is an alert, but WebDriver is unable to perform Alert operation.
    iii)   **UnknownMethodException**: Thrown when the requested command matches with a known URL but not matching with a methodology for that URL.
    iv)   **UnreachableBrowserException**: This Selenium exception happens if the browser is unable to be opened or has crashed because of some reasons.
    v)   **UnsupportedCommandException**: Occurs when remote WebDriver does not send valid commands as expected.

A) Except v) all are valid Selenium Exception
B) Except iii) all are valid Selenium Exception
C) None of these are valid Selenium Exception
D) All are valid Selenium Exceptions

Correct Answer is D)

Reference:

https://katalon.com/resources-center/blog/selenium-exceptions

Question 18

The ChromeDriver class starts the ChromeDriver server process at creation and terminates it when quit is called. This can waste a significant amount of time for large test suites where a ChromeDriver instance is created per test. There are two options to remedy this:

i) Use the ChromeDriverService. This is available for most languages and allows you to start/stop the ChromeDriver server yourself.

ii) Start the ChromeDriver server separately before running your tests, and connect to it using the Remote WebDriver.

A) ChromeDriver server process creation and destruction is not at all wastage of time hence we do not want to remedy this
B) ChromeDriver server process creation and destruction can result in significant amount of time hence Option i) is a good remedy. Option ii) is not a good remedy as it is used in selenium grid to connect to remote grid server
C) ChromeDriver server process creation and destruction can result in significant amount of time hence Option i) is a good remedy. Option ii) is also a good remedy
D) ChromeDriver class does not create a server at all

Correct answer is C)

Reference: https://chromedriver.chromium.org/getting-started

Question 19

Please see the following code

try{ // Line 1

  if(driver.findElement(By.xpath("xpath_of_the_desired_element")).isDisplayed()) // Line 2

    System.out.println("is Displayed returns True"); // Line 3

  else // Line 4

System.out.println("is Displayed returns False"); // Line 4

}catch (NoSuchElementException e) { // Line 5

System.out.println("NoSuchElementException is thrown"); // Line 6

} // Line 7

// Line 4 will get executed when

A) Element is present and displayed
B) Element is present but not displayed
C) Element is not present, hence not displayed as well
D) Line 4 will never get executed

Correct Answer is B)

Reference : https://stackoverflow.com/questions/51002843/nosuchelementexception-with-isdisplayed-method-within-try-catch-block-in-selen

Question 20

FirefoxProfile profile = new FirefoxProfile();

A) FirefoxProfile is valid class and is a collection of settings, customization, add-ons and other personalization settings that can be done on the Firefox Browser in Selenium
B) FirefoxProfile is used for creating a Firefox session using Selenium
C) FirefoxProfile is not a valid class in Selenium 4.x
D) FirefoxProfile is not a valid class in Selenium 3.x

Correct Answer is A)

Reference : https://www.guru99.com/firefox-profile-selenium-webdriver.html

https://www.selenium.dev/selenium/docs/api/java/org/openqa/selenium/firefox/FirefoxProfile.html

https://stackoverflow.com/questions/30393957/firefox-profile-not-working