



UNIVERSITY OF RUHUNA

Faculty of Engineering

End-Semester 5 Examination in Engineering: December 2020

Module Number: EE5209

Module Name: Web Application Development

Part-I - [1 Hour and 15 minutes]

[Answer all 50 questions, each question carries 0.5 marks]

Instructions to Candidates

The paper consists of two parts Part-I and Part-II. You should first write answers to Part-I.

- Part-I of the question paper contains 50 multiple choice questions.
- For Part-I, candidate should answer in the same paper by putting an X mark on the letter: (A), (B), (C), or (D) which corresponds to the correct answer using a black or blue pen.
- Part-A of the question paper will be collected after 1 Hour and 15 minutes from the examination starting time.
- Write your index number in all the pages of Part-I

Index number:.....

Q1 Select the most suitable answer for the following questions.

[25 Marks]

- 1) How many types of message formats are there in HTTP protocol?
- A. 4 types
 - B. 3 types
 - C. 2 types
 - D. 5 types
- 2) HTTP protocol has _____ handshakes.
- A. 2 way
 - B. 1 way
 - C. 3 way
 - D. 5 way
- 3) How many digits in HTTP status code?

- A. two-digit
- B. three-digit
- C. five-digit
- D. six-digit

- 4) In a URL, the _____ is the client-server program used to retrieve the document.
- A. Protocol
 - B. Path
 - C. Host
 - D. None of above
- 5) In a URL, the _____ is the computer on which the information is located.
- A. Protocol
 - B. Path
 - C. Host
 - D. None of above
- 6) What is a language for creating Web pages?
- A. HTML
 - B. FTTP
 - C. HTTP
 - D. None of above
- 7) An HTTP request message always contains _____
- A. a header and a body
 - B. a request line and a header
 - C. a status line, a header, and a body
 - D. None of above
- 8) What is not a valid HTTP method/verb?
- A. GET
 - B. POST
 - C. EDIT
 - D. DELETE
- 9) What does HTTP stand for?
- A. Hypertext Transfer Processor
 - B. Hypertext Transfer Protocol
 - C. High Transfer Protocol
 - D. Html Translate Protocol
- 10) Angular 2 or higher can detect when component data changes, and then automatically re-render the view to reflect that change.
- A. False
 - B. True
 - C. Both
 - D. None

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11) Which of the following tag is used to mark a beginning of paragraph

- A.<td>
- B.

- C.<p>
- D.<tr>

12) Apart from tag, what other tag makes text bold ?

- A.<fat>
- B.
- C.<black>
- D.<emp>

13) An _____ is a set of entities of the same type that share the same properties, or attributes.

- A. Entity set
- B. Attribute set
- C. Relation set
- D. Entity model

14) Which of the following can be used to override the default conventions in "Entity Framework Core"?

- A. Fluent API
- B. Data Annotations Attributes
- C. 1 & 2 Both
- D. None of the above

15) Which "Data Annotations" attribute can be used to define a primary key property.

- A. [PrimaryKey]
- B. [Column]
- C. [InverseProperty]
- D. [Key]

16) What kind of relationship is between Student and Standard entities?

```
modelBuilder.Entity<Student>()
    .HasOne(s => s.Grade)
    .WithMany(g => g.Students)
    .HasForeignKey(s => s.CurrentGradeId);
```

- A. One-to-many
- B. One-to-One
- C. Many-to-Many
- D. One-to-Zero or One

17) Which command enables migration in "Entity Framework Code-First" approach?

- A. enabled-migration
- B. start-migration
- C. enable-migrations
- D. update-migrations

18) Which of the following is the default convention to configure a PrimaryKey property in "Entity Framework Code-First" approach?

- A. Property name is "Id"
- B. Property name is "Class Name" + "Id"
- C. Property name ends with "Key"
- D. 1 & 2 Both

19) What would be the created table name?

```
public class SchoolContext : DbContext {
    ...
    public DbSet<Student> StudentList { get; set; }
}
```

- A. Student
- B. Students
- C. StudentList
- D. StudentLists

20) Which of the following tools is used to execute the EF Core commands?

- A. Package Manager Console
- B. Command Line Interface
- C. Power tool
- D. 1 & 2 Both

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21) Middlewares can be configured in _____ method of Startup class.

- A. Configure
- B. ConfigureServices
- C. Main
- D. ConfigureMiddleware

22) ASP.NET Core web application uses _____ as an internal web server by default.

- A. IIS
- B. Apache
- C. Kestrel
- D. nginx

23) Which of the following is executed on each request in ASP.NET Core application?

- A. Startup
- B. Middlewares
- C. Main method
- D. All of the above

24) What would be the appropriate URL for the following method?

```
public class UserController : Controller
{
    public IActionResult GetUsers()
    {
        // logic to return list of users in the system
    }
}
```

- A. GET /users
- B. GET /users/{userId}
- C. POST /users
- D. All of the above

25) What is a false statement about the ViewBag in ASP.Net MVC application?

- A. ViewBag is a dynamic property
- B. It is a class to store data in the Controller
- C. It is used to pass data between the controller and view
- D. ViewBag doesn't require typecasting for complex data type

26) What will be the output of the following C# code?

```
static void Main(string[] args)
{
    int i = 30;
    int j = 25 % 25;
    if (Convert.ToBoolean(Convert.ToInt32(i = j)))
    {
        Console.WriteLine("In if");
    }
    else
    {
        Console.WriteLine("In else");
    }
    Console.WriteLine("In main");
    Console.ReadLine();
}
```

- A. In if
- B. In else
- C. In if
In main
- D. In else
In main

26) What will be the output of the following C# code?

```
static void Main(string[] args)
{
    int i, j;
    for (i = 2; i >= 0; i--)
    {
        for (j = 0; j <= 2; j++)
        {
            if (i == j)
            {
                Console.WriteLine("1");
            }
            else
            {
                Console.WriteLine("0");
            }
        }
        Console.WriteLine("\n");
        Console.ReadLine();
    }
}
```


Index number:.....

- A. 1 0 0
0 1 0
0 0 1
- B. 0 1 0
1 0 0
0 0 1
- C. 0 0 1
0 1 0
1 0 0
- D. 1 0 0
0 0 1
0 1 0

27) What is the command for creating a new component Test in Angular

- A. npm new component Test
- B. ng generate component Test
- C. ng g c Test
- D. B & C

28) Select the syntax for two-way data binding in Angular.

- A. None of these
- B. [(target)]="expression"
- C. (target)="statement"
- D. [(target)]="expression"

29) What is the syntax of data binding in angular one-way - form view target of data source?

- A. [(target)]="expression"
- B. target="statement"
- C. [target]="expression"
- D. [(target)]="expression"

30) Which of the following is true about RESTful web services?

- A. Webservices based on REST Architecture are known as RESTful web services
- B. Webservices uses HTTP methods to implement the concept of REST architecture
- C. Both A and B
- D. None of the above

31) How can we check the current version of NPM?

- A. npm --version
- B. npm --ver
- C. npm help
- D. None of the above

32) How can we create an instance of http module in node?

- A. `var http = require("http")`
- B. `var http = new require("http")`
- C. `var http = new http()`
- D. None of the above

33) What is the default scope for the members of an interface?

- A. private
- B. public
- C. protected
- D. interna

34) Which of the following is not a built-in pipe in Angular?

- A. CurrencyPipe
- B. PercentPipe
- C. DataPipe
- D. UpperCasePipe

35) If a C# class 'Car' had 'NumberOfWheels' property with getting and set accessors, then which of the following statements will work correctly? (car is a variable of type Car).

- A. `car.NumberOfWheels = 2;`
- B. `Car car = new Car();`
- C. `Console.WriteLine(car.NumberOfWheels);`
- D. All of the above

36) Each resource in REST architecture is identified by its URI.

- A. True
- B. False
- C. Partially correct
- D. None of the above

37) Which of the following HTTP methods should be idempotent (Making multiple identical requests has the same effect as making a single request) in nature?

- A. GET
- B. PUT
- C. POST
- D. HEAD

38) Which of the following HTTP Status code means CREATED, when a resource is successful created using POST or PUT request?

- A. 200
- B. 201
- C. 204
- D. 304

Index number:.....

- 39) What is wrong about the benefits of Entity Framework?
- A. It reduces a lot of development time.
 - B. It auto-generates code for the Model and mapping code from the database.
 - C. It can create a database from the model class
 - D. It can only connect to Microsoft SQL Server
- 40) What is the process of generating code to reduce the amount of time to develop standard data operations in ASP.Net projects?
- A. NuGet
 - B. Scaffolding
 - C. Install
 - D. Preview
- 41) Which command display the list of databases in Mongo.
- A. show db
 - B. show dbs
 - C. show data
 - D. display dbs
- 42) MongoDB stores all documents in _____
- A. tables
 - B. collections
 - C. rows
 - D. all of the mentioned
- 43) Which of the following methods returns one document in Mongo?
- A. findOne()
 - B. findOne()
 - C. selectOne()
 - D. None of the mentioned
- 44) Which of the following query selects documents in the records collection that match the condition { "user_id": { \$lt: 42 } }?
- A. db.records.findOne({ "user_id": { \$lt: 42 } }, { "history": 0 })
 - B. db.records.find({ "user_id": { \$lt: 42 } }, { "history": 0 })
 - C. db.records.findOne({ "user_id": { \$lt: 42 } }, { "history": 1 })
 - D. db.records.select({ "user_id": { \$lt: 42 } }, { "history": 0 })
- 45) In addition to basic queries, MongoDB process collection of documents using _____ operations.
- A. Hbase
 - B. Hive
 - C. Map-reduce
 - D. None of the mentioned

46) Markup tags tell the web browser

- A. How to refresh the page
- B. How to display the page
- C. How to display message box on page
- D. None of these

47) How can you open a link in a new browser window?

- A.
- B.
- C.
- D.

48) Which of these operators can be used to concatenate two or more String objects?

- A. +
- B. +=
- C. &
- D. ||

49) Which is not a valid data type in JavaScript?

- A. Number
- B. Object
- C. Boolean
- D. Float

50) When we write , what "img.png" inside double quote implies?

- A. element
- B. attribute
- C. value
- D. operator