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NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: VI - THEORY EXAMINATION (2025 - 2026)

Subject: Full-Stack Web Development using Laravel with Vue.JS

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

- (1.1) Choose the correct option about Laravel Middleware. (CO1,K1) 1
- (a) A piece of code that filters HTTP requests entering your application
 - (b) A type of database table used for storing session data
 - (c) A built-in feature that allows for server-side caching
 - (d) A library for creating user authentication and authorization systems
- (1.2) Select the purpose of Laravel Middleware (CO1, K1) 1
- (a) To intercept and modify incoming HTTP requests
 - (b) To handle errors and exceptions in the application
 - (c) To perform database migrations and seeding
 - (d) To generate HTML views for the user interface
- (1.3) Select the valid Vue.js template directive. (CO2, K1) 1
- (a) v-foo
 - (b) v-bind
 - (c) v-model
 - (d) All of the above
- (1.4) Select the correct syntax for using a v-for directive to loop through an array in Vue.js. (CO2, K1) 1
- (a) <li for="item in items">{{ item }}
 - (b) <li v-for="item in items">{{ item }}
 - (c) <li v-each="item in items">{{ item }}
 - (d) <li v-loop="item in items">{{ item }}

- (1.5) Choose the Laravel authentication method that allows users to register with either a username or an email address. (CO3, K2) 1
- (a) Default authentication method
 - (b) Custom authentication method
 - (c) Socialite authentication method
 - (d) None of the above
- (1.6) Select the method that is used to show an error message in Laravel (CO3, K1) 1
- (a) withErrors
 - (b) withError
 - (c) with
 - (d) flashError
- (1.7) Select option to start a database transaction in Laravel. (CO4, K1) 1
- (a) Use the DB::startTransaction() method
 - (b) Use the DB::beginTransaction() method
 - (c) Use the DB::initTransaction() method
 - (d) Use the DB::openTransaction() method
- (1.8) Select for Laravel Eloquent. (CO4, K1) 1
- (a) A way to build complex database queries using object-oriented syntax
 - (b) A way to access the database using raw SQL queries
 - (c) A way to generate database schemas from PHP code
 - (d) A way to work with database records using object-oriented syntax
- (1.9) Choose which PHP extension that is required for autoloader optimization in Laravel Forge. (CO5, K1) 1
- (a) OPcache
 - (b) Xdebug
 - (c) Redis
 - (d) artisan
- (1.10) Choose the correct default location of the optimized autoload files in Laravel Forge. (CO5, K2) 1
- (a) /vendor/autoload.php
 - (b) /vendor/composer/autoload.php
 - (c) /vendor/composer/autoload_real.php
 - (d) None of these

2. Attempt all parts:-

- (2.1) Elaborate Blade in Laravel. (CO1, K1) 2
- (2.2) Define the steps of how does Inertia handle form submissions without page refreshes. (CO2, K3) 2
- (2.3) Discuss the purpose of the Auth::routes() method in Laravel authentication. (CO3, K2) 2
- (2.4) Define the ways to create custom validation rules in Laravel. (CO4, K2) 2
- (2.5) Explain how you encrypt a string using the OpenSSL extension in PHP. (CO5, K1) 2

SECTION-B

30

Answer any one of the following:-

- (3.1) Explain Eloquent ORM, and how does it simplify database operations in Laravel. (CO1,K1) 6
- (3.2) Elaborate the role of Composer in Laravel installation, and how does it help manage dependencies. (CO1, K2) 6

Answer any one of the following:-

- (3.3) Give an example of how you would bind a value to the href attribute of an anchor tag. What is the difference between using v-bind:href and :href. (CO2, K2) 6
- (3.4) Show the steps of Inertia.js help to improve the user experience in a web application.(CO2, K2) 6

Answer any one of the following:-

- (3.5) Illustrate the working of the Service Container and Dependency Injection design pattern in Laravel. (CO3, K2) 6
- (3.6) Demonstrate the use of different control structures in Laravel templates with suitable examples.(CO3, K3) 6

Answer any one of the following:-

- (3.7) Define the ways to customize error messages for validation rules in Laravel. (CO4, K1) 6
- (3.8) Show creation of a foreign key constraint between two database tables using a migration in Laravel.(CO4, K3) 6

Answer any one of the following:-

- (3.9) Write some common issues that can arise during the deployment of a Laravel application to production. (CO5, K1) 6
- (3.10) Compare the process of deploying a Laravel application in a local development environment with its deployment in a production environment, highlighting key differences in configuration, performance, and security. (CO5 , K3) 6

SECTION-C

50

4. Answer any one of the following:-

- (4.1) Summarize the concept of Laravel and its key features that contribute to its popularity in web development. (CO1, K2) 10
- (4.2) Demonstrate best practices for using Implicit Controllers in Laravel by outlining their implementation in routes and explaining key considerations and potential pitfalls during their use in a web application.(CO2, K3) 10

5. Answer any one of the following:-

- (5.1) Develop a simple Vue.js application that uses loops to render a dynamic list of items. For example, you could create a list of products or services that users can browse through.(CO2, K3) 10
- (5.2) You are building a Vue.js application that shows a list of products with their details. Each product has a boolean attribute called "featured" that determines if it is a featured product. You need to display the featured products with a special background color. (CO2, K3) 10

6. Answer any one of the following:-

- (6.1) Implement route protection in Laravel to restrict access to certain pages so that only authenticated users can view them, and redirect unauthenticated users to the login page. (CO3, K3) 10
- (6.2) Analyze the changes required in Laravel default authentication system to support dual login fields (username and email) and evaluate the impact on authentication logic and security. (CO3, K4) 10
7. Answer any one of the following:-
- (7.1) Explain the configuration of Laravel to use a remote database, and what security considerations should be taken into account when doing so.(CO4,K2) 10
- (7.2) Implement the configuration in Laravel to connect an application to a remote database and apply appropriate security measures while setting up the connection.(CO4, K3) 10
8. Answer any one of the following:-
- (8.1) Apply performance optimization and stability techniques in a Laravel application deployed in production to handle high traffic effectively.(CO5, K3) 10
- (8.2) Compare and analyze the features of Laravel Forge that contribute to efficient server provisioning, deployment automation, and application maintenance. (CO5, K4) 10