

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

**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) | Select the correct software components which is required to install Laravel. (CO1, K1) | 1 |
| (a)   | PHP                                                                                    |   |
| (b)   | MySQL                                                                                  |   |
| (c)   | Apache                                                                                 |   |
| (d)   | All of the above                                                                       |   |
| (1.2) | Select the recommended way to install Laravel (CO1, K1)                                | 1 |
| (a)   | Using the Laravel installer                                                            |   |
| (b)   | Downloading the source code from GitHub                                                |   |
| (c)   | Using a package manager like Composer                                                  |   |
| (d)   | None of the above                                                                      |   |
| (1.3) | Select the purpose of the v-if directive in Vue.js. (CO2, K1)                          | 1 |
| (a)   | To loop through an array and render a list of items                                    |   |
| (b)   | To conditionally render HTML based on a boolean expression                             |   |
| (c)   | To manage the state of a Vue.js component                                              |   |
| (d)   | None of the above                                                                      |   |
| (1.4) | The correct usage of Vue directives is. (CO2, K1)                                      | 1 |
| (a)   | To bind data to HTML elements                                                          |   |
| (b)   | To create custom components in Vue.js                                                  |   |
| (c)   | To manipulate the state of Vue.js components                                           |   |
| (d)   | None of the above                                                                      |   |

- (1.5) Choose correct design pattern which is used by Laravel's Event Dispatcher. (CO3, K1) 1
- (a) Command pattern
  - (b) Observer pattern
  - (c) Decorator pattern
  - (d) Template pattern
- (1.6) Choose how you can include a sub-view within a Blade template in Laravel (CO3, K1) 1
- (a) By using the @include directive
  - (b) By using the @extends directive
  - (c) By using the @yield directive
  - (d) By using the @section directive
- (1.7) Choose the option which executes a select query and return the results as a collection of objects in Laravel (CO4, K1) 1
- (a) Use the get() method
  - (b) Use the first() method
  - (c) Use the find() method
  - (d) Use the pluck() method
- (1.8) In Laravel, select the method that is used to run an insert statement. (CO4, K1) 1
- (a) insert()
  - (b) add()
  - (c) create()
  - (d) update()
- (1.9) Choose which extension should be enabled in order to use PHP's XML processing functions such as simplexml\_load\_file() and xml\_parse(). (CO5, K2) 1
- (a) xml
  - (b) xmlrpc
  - (c) xmlreader
  - (d) xmlwriter
- (1.10) Does autoloader optimization in Laravel Forge work for all PHP applications. (CO5, K1) 1
- (a) Yes, it works for all PHP applications
  - (b) No, it only works for Laravel applications
  - (c) No, it only works for WordPress applications
  - (d) Yes, it only works for WordPress applications

2. Attempt all parts:-

- (2.1) Define the steps that which can be used to resolve dependencies in constructor injection. (CO1, K2) 2
- (2.2) Elaborate the way to dynamically bind attributes to Html elements in Vue.js template. (CO2, K2) 2
- (2.3) Elaborate the mechanism behind Laravel Faker Installation. (CO3, K3) 2

|                                             |                                                                                                                                                                                                                                                                            |    |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| (2.4)                                       | Define how data validation can be performed in Laravel. (CO4, K2)                                                                                                                                                                                                          | 2  |
| (2.5)                                       | Define the concept of Nginx configuration to serve static files. (CO5, K3)                                                                                                                                                                                                 | 2  |
| <b>SECTION-B</b>                            |                                                                                                                                                                                                                                                                            | 30 |
| Answer any <u>one</u> of the following:-    |                                                                                                                                                                                                                                                                            |    |
| (3.1)                                       | Explain a case study for improper installation of Laravel and how to fix those issues. (CO1, K3)                                                                                                                                                                           | 6  |
| (3.2)                                       | Elaborate the role of Composer in Laravel installation, and how does it help manage dependencies. (CO1, K3)                                                                                                                                                                | 6  |
| Answer any one of the following:-           |                                                                                                                                                                                                                                                                            |    |
| (3.3)                                       | Elaborate how Inertia.js improves the user experience in a web application with the help of example.(CO2, K4)                                                                                                                                                              | 6  |
| (3.4)                                       | There is a concept of validating errors in form submissions, explain with code how inertia.js achieves this. (CO2, K3)                                                                                                                                                     | 6  |
| Answer any one of the following:-           |                                                                                                                                                                                                                                                                            |    |
| (3.5)                                       | Write concept behind Blade Template Engine and how it differs from normal php page. (CO3, K3)                                                                                                                                                                              | 6  |
| (3.6)                                       | Explain the concept of OAuth Provides along with sample code. (CO3, K3)                                                                                                                                                                                                    | 6  |
| Answer any one of the following:-           |                                                                                                                                                                                                                                                                            |    |
| (3.7)                                       | Describe how can you define a model in Laravel Eloquent. (CO4, K3)                                                                                                                                                                                                         | 6  |
| (3.8)                                       | Explain CRUD Operation and Database Transaction. (CO4, K3)                                                                                                                                                                                                                 | 6  |
| Answer any one of the following:-           |                                                                                                                                                                                                                                                                            |    |
| (3.9)                                       | Write some strategies for managing user sessions in a Laravel application deployed to production. (CO5, K4)                                                                                                                                                                | 6  |
| (3.10)                                      | Explain how you manage permissions and access control for a Laravel application in a production environment. (CO5, K4)                                                                                                                                                     | 6  |
| <b>SECTION-C</b>                            |                                                                                                                                                                                                                                                                            | 50 |
| 4. Answer any <u>one</u> of the following:- |                                                                                                                                                                                                                                                                            |    |
| (4.1)                                       | Discuss the key features of Laravel Sail, such as its Docker-based architecture, configurable services, and easy-to-use CLI interface. Additionally, provide some examples of when Laravel Sail would be used in a web application development workflow. (CO1, K4)         | 10 |
| (4.2)                                       | Explain Laravel Jetstream with its key features along with installation steps in detail. Also explain its real-life usage (CO1, K4 )                                                                                                                                       | 10 |
| 5. Answer any <u>one</u> of the following:- |                                                                                                                                                                                                                                                                            |    |
| (5.1)                                       | Inertia.js allows developers to create single-page applications (SPAs) with a backend framework of their choice. Explain how this is achieved and what advantages it offers. What are some of the most popular backend frameworks used with Inertia.js, and why. (CO2, K4) | 10 |
| (5.2)                                       | Explain the purpose and functionality of the visit method in Inertia.js. How is it used to navigate between pages in a single-page application? Provide an example to illustrate your answer. (CO2, K4)                                                                    | 10 |
| 6. Answer any <u>one</u> of the following:- |                                                                                                                                                                                                                                                                            |    |

- (6.1) Explain how we can implement role-based access control (RBAC) in Laravel, where users are granted permissions based on their assigned roles, using packages like Spatie Laravel Permission or Bouncer. (CO3, K4) 10
- (6.2) Explain how we can modify Laravel's registration form to allow users to enter both a username and an email address. (CO3, K4) 10
7. Answer any one of the following:-
- (7.1) Use Laravel's pagination feature to display large sets of database records in a user-friendly way, and what are some best practices for using this feature effectively. (CO4, K4) 10
- (7.2) Define some best practices for database backup and recovery in a Laravel application, and how can these practices help to minimize data loss and ensure business continuity. (CO4, K4) 10
8. Answer any one of the following:-
- (8.1) Discuss the process of deploying a Laravel application on a shared hosting server. Explain the steps involved in configuring the server, setting up the necessary environment variables, and uploading your Laravel application files to the server. (CO5, K4) 10
- (8.2) Write steps and code to optimize configuration loading in Laravel. Also define various php extensions. (CO5, K4) 10