

# Question based on Lec 4 – NODE JS

## Single Answer

1. What is Node.js primarily used for?
  - a) Building CPU-intensive applications
  - b) Building scalable and real-time network applications
  - c) Creating desktop applications
  - d) Designing relational databases
2. What programming model does Node.js use?
  - a) Blocking I/O model
  - b) Event-driven, non-blocking I/O model
  - c) Sequential execution model
  - d) Multi-threaded execution model
3. Who created Node.js?
  - a) Brendan Eich
  - b) Ryan Dahl
  - c) James Gosling
  - d) Guido van Rossum
4. Which of the following is NOT an ideal use case for Node.js?
  - a) JSON APIs-based applications
  - b) Data-intensive real-time applications
  - c) CPU-intensive computational tasks
  - d) Single-page applications
5. What is the role of the event loop in Node.js?
  - a) To handle asynchronous operations without blocking execution
  - b) To spawn multiple threads for concurrent execution
  - c) To compile JavaScript code into machine code
  - d) To manage relational database connections
6. Which component in the event-driven model listens for events?
  - a) Event emitter
  - b) Event listener
  - c) Callback function
  - d) Event loop
7. What file contains metadata about a Node.js application, including dependencies and scripts?
  - a) package-lock.json
  - b) node\_modules
  - c) package.json
  - d) app.js
8. What does "express": "^4.18.2" mean in package.json?
  - a) Install version 4.18.2 or lower only.

- b) Install version 4.x.x but NOT 5.x.x.
  - c) Install any available version of Express.
  - d) Install version 4.18.x but NOT 4.19.x.
9. Which type of dependency is required only during development in Node.js?
- a) Dependencies
  - b) devDependencies
  - c) Runtime dependencies
  - d) Core modules
10. What happens when you use require() to load a module in Node.js?
- a) The module is loaded asynchronously every time it is called.
  - b) The module is loaded synchronously and cached after the first use.
  - c) The module is compiled into machine code before being loaded.
  - d) The module is deleted after execution.

### Multiple Answer

11. Which features describe Node.js? (Select two correct answers.)
- a) Open-source and cross-platform
  - b) Multi-threaded execution
  - c) Event-driven architecture
  - d) Blocking I/O model
12. Which are valid use cases for Node.js? (Select three correct answers.)
- a) Data streaming applications
  - b) Computationally intensive tasks
  - c) JSON APIs-based applications
  - d) I/O-bound applications
13. Which are advantages of using Node.js? (Select three correct answers.)
- a) Ability to use JavaScript on both client-side and server-side
  - b) Horizontal and vertical scalability
  - c) Support for synchronous programming only
  - d) Improved performance via caching modules
14. Which types of modules can be imported using require() in Node.js? (Select two correct answers.)
- a) Core modules
  - b) Local modules
  - c) Third-party modules installed via npm
  - d) Modules written in Python
15. Which are disadvantages of using Node.js? (Select two correct answers.)
- a) Not suitable for computationally intensive tasks
  - b) Limited support for asynchronous programming models
  - c) Comparatively low number of robust libraries available
  - d) Limited scalability for real-time applications

### Fill in the Blanks

16. require() is the built-in function used to import modules in Node.js.
17. The package.json file contains metadata about dependencies, scripts, and versions for a Node.js application.
18. In the event-driven model, callback function executes when an event occurs.
19. event loop is the mechanism that allows Node.js to handle multiple operations without blocking execution.
20. A production dependency is required during runtime, while dev dependencies are needed only during development.