

BMIT2013 Exam Scope (202405)

Format : 4 Questions (each 25 marks, with sub-questions).

Duration: 2 hours

Chapter	Scope (Theory)	Scope (Coding)
1. Introduction	All	None
2. HTML	<ul style="list-style-type: none"> Differences between: 2A <ul style="list-style-type: none"> Ordered list Unordered list Description list Differences between: 2A <ul style="list-style-type: none"> Absolute path Relative path Identify absolute and relative path to a page based on a given file and folder structure (diagram). Suggest appropriate input controls for form fields based on a given scenario. 2C <ul style="list-style-type: none"> Textbox Textarea Checkbox Radio button list Single-selection list Checkbox list Multi-selection list Password field Slider Spinner Date picker Time picker Color picker File picker <p>** HTML codes <u>NOT</u> required.</p>	<ul style="list-style-type: none"> Write HTML codes to construct: 2A <ul style="list-style-type: none"> Ordered list → ol and li elements. Unordered list → ul and li elements. Description list → dl, dt and dd elements. Write HTML codes to construct table: 2B <ul style="list-style-type: none"> Elements → table, tr and td. Attributes → rowspan and colspan. <p>** Other table elements and attributes <u>NOT</u> cover.</p>
3. CSS	<ul style="list-style-type: none"> Differences between: 3A <ul style="list-style-type: none"> Inline CSS Embedded CSS External CSS <p>** CSS codes <u>NOT</u> required.</p> <ul style="list-style-type: none"> Differences between: 3A <ul style="list-style-type: none"> Color names RGB colour values HEX colour values Their advantages and disadvantages. <p>** CSS Codes <u>NOT</u> required.</p>	None
4. JS	<ul style="list-style-type: none"> Differences between: 4A <ul style="list-style-type: none"> Inline JS Embedded JS External JS <p>** JS codes <u>NOT</u> required.</p> <ul style="list-style-type: none"> Examples of JS / jQuery events: 4B <ul style="list-style-type: none"> Moving the mouse over an element (e.g. image) Selecting a radio button or checkbox Clicking on an element (e.g. button) <p>** JS codes <u>NOT</u> required.</p>	None

5. PHP	<ul style="list-style-type: none"> 3 general data types in PHP: 5A <ul style="list-style-type: none"> Scalar: Integer, Float, String and Boolean → Contains a single value Compound: Array and Object → Contains more than one value Special: Resource and Null → Neither scalar nor compound but they have special meaning Loose Data Type: 5A <ul style="list-style-type: none"> Definition Example Advantages Disadvantages Differences between: 5B <ul style="list-style-type: none"> Indexed array → numeric index Associative array → string key Example Differences between: 5C <ul style="list-style-type: none"> include require include_once require_once Advantages of importing files using include or require What is and why we need a sticky form? 5C 	<ul style="list-style-type: none"> Write simple PHP codes to demonstrate loose data type. For example: 5A <pre>\$a = 123; // \$a is integer \$a = 'A'; // \$a is string now</pre> Write simple PHP codes to demonstrate differences between indexed array and associative array. For example: 5B <pre>\$a = ['Apple', 'Banana', 'Coconut',]; // \$a is indexed array \$b = ['APP' => 'Apple', 'BNN' => 'Banana', 'CCN' => 'Coconut',]; // \$b is associative array</pre>
6. Database	<ul style="list-style-type: none"> Advantages of PDO (PHP Data Object). Advantages of prepared statement and parameterized query. Differences between (in words): <ul style="list-style-type: none"> fetchAll() fetch() fetchColumn() What is a database transaction? Database security practices (remember at least 3 points). 	<ul style="list-style-type: none"> Given \$db and a database table (ERD), write basic PDO and SQL codes to: <ul style="list-style-type: none"> SELECT all records SELECT one record SELECT one single value (e.g. COUNT) INSERT one record UPDATE one record DELETE one record Involve only the following functions: <ul style="list-style-type: none"> query() prepare() execute() fetchAll() fetch() fetchColumn() Refer to code examples given in Chapter 6 slide, Exam Scope section.
7. Security	<ul style="list-style-type: none"> Input validation vs. input sanitization (differences + examples). Suggest input validations for given data or input fields (refer to example given in Chapter 7 slide). Output coding (definition). Stateless protocol (definition). Session vs. cookie (differences + usage examples). Authentication vs. authorization (differences + examples). 	None

	<ul style="list-style-type: none">• Password hashing (definition).• Examples of password hashing algorithms:<ul style="list-style-type: none">◦ Basic: MD5, SHA1◦ Advanced: SHA256, BCRYPT, ARGON2• Key points of password hashing.• Enforce password strength or strong password. • Validating uploaded files.• File upload security practices (remember at least 3 points).	
--	---	--