



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

**THIRD YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN INFORMATION
TECHNOLOGY**

MAIN CAMPUS

CIT 308: WEB SYSTEMS TECHNOLOGIES II

Date: 14th June, 2017

Time: 3.30 - 6.30 pm

INSTRUCTIONS:

- Answer question ONE and any other TWO questions.
- Write your registration number on all sheets of the answer book used.
- Use a NEW PAGE FOR EVERY QUESTION attempted, and indicate number on the space provided on the page of the answer sheet.
- Mobile phones and PDAs are NOT allowed in the examination room.



QUESTION 1: (30 MARKS)

- A) What is the difference between a static and dynamic website? (4 marks)
- B) Write a code to get a browser's properties using PHP. (2 marks)
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- C) What is the difference between the require() and include() functions. (2 marks)
- D) When do we use the __construct() and __destruct() methods in php class. (2 marks)
- E) A class has a variable initialized to zero, and a method too. Every call of this method increases the variable value by one. If the value of the variable is equal to seven, a message is printed on the console and variable value gets reset to zero. Implement this class. (8 marks)
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- F) Explain PHP's scope rules for local, global and super global variables. (3 marks)
- G) write a php program that provides a list of artist names along with the average rating of their albums and their nationality. (9 marks)
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QUESTION 2: (20 MARKS)

- A) object cloning can be done in php using a keyword clone. Write a program to demonstrate how its done. (6 marks)
- B) Write a php program that demonstrates the use of four built-in functions. (8 marks)
- C) write a while loop in php to output the numbers 20 to 30, then change the loop to output 20 to 1 in reverse order. (6 marks)

QUESTION 3: (20 MARKS)

- A) An e-mail message sent with an attachment consists of different types of content, called a multipart MIME message. The message is divided into at least two parts, one for the message and one for the attachment. Write a program to achieve this. (8 marks)
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- B) The results of a class are uploaded online for access for both students and parents. This page needs to be dynamic because of the many updates a campus often has. Create a page that displays the results of students depending on whose results are asked for. Make use of arrays and OOP elements. (12 marks)

QUESTION 4: (20 MARKS)

- A. PHP can work with MySQL to ensure database connection. What are the main elements that must be present for a successful connection? Give a program to support your answer. (10 marks)
- B. Validation on the client-side reduces bottleneck on the script. Write a program that validate the login details on the client-side before giving access to the next section of a web page. (8 marks)
- C. How do you display `mysql_error()` from PHP? (2 marks)

QUESTION 5: (20 MARKS)

- A) A user loses his password and requests for reset. Write a form that will allow this user reset his password using phone number and username. If the username and phone number match entries in the database, generate a random string as a password (make it of reasonable length, alphanumeric), inform the user of the random string generated, and make appropriate changes in the database. Remember that the database stores the hashed version of the password. If the username and phone number combination does not exist, inform the user of the failure to reset the password, and display the reset form below the message. (10 marks)
- B) Write a function `countWords($str)` that takes any string of characters and finds the number of times each word occurs. You should ignore the distinction between capital and lowercase letters, and do not have to worry about dealing with characters that are not letters. Hint: Create an associative array mapping word keys to the number of times they occur. (8 marks)
- C) What are the differences between GET and POST in PHP. (2 marks)