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PES University, Bangalore
(Established under Karnataka Act No. 16 of 2013)

UE16CS204**END SEMESTER ASSESSMENT (ESA) B.TECH III SEMESTER- Dec 2017****UE16CS204 – Web Technologies I**

Time: 3 Hrs

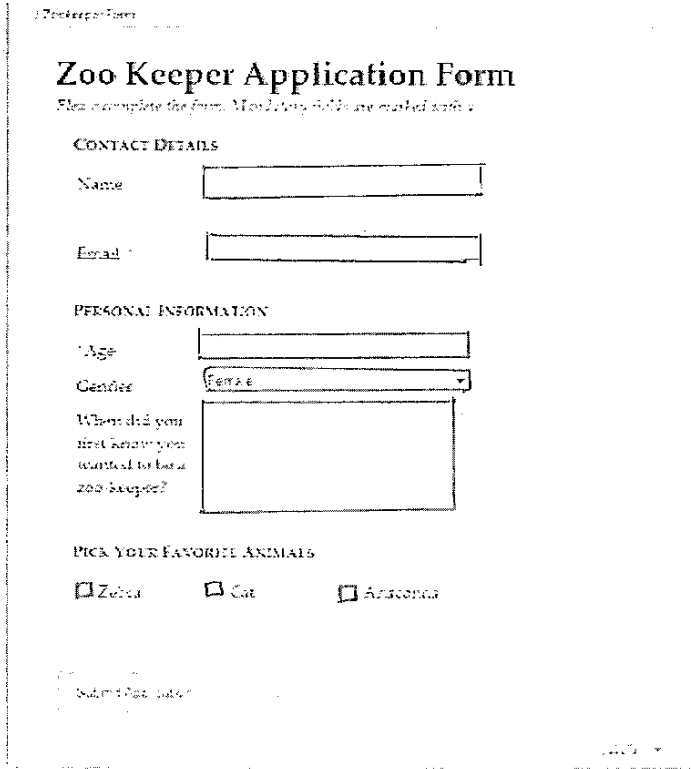
Answer All Questions

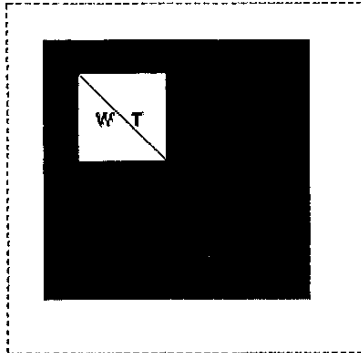
Max Marks: 100

Note: All answers must be precise and to the point.

1.	a)	While monitoring HTTP traffic over the network a status code of 302 is noticed. Does this indicate an error? Justify your answer. Which status codes might indicate an issue? Which status code indicates that the request was completed successfully?	5																																
	b)	<p>Write the HTML code given to design the table shown below</p> <p>Apply document level CSS to display the cells with headings in bold font and with a grey background.</p> <table><tr><td colspan="2">Invoice #123456789</td><td colspan="2">14 January 2025</td></tr><tr><td colspan="2">Pay to: Acme Billing Co. 123 Main St. Cityville, NA 12345</td><td colspan="2">Customer: John Smith 321 Willow Way Southeast Northwesternshire, MA 54321</td></tr><tr><td>Name / Description</td><td>Qty.</td><td>@</td><td>Cost</td></tr><tr><td>Paperclips</td><td>1000</td><td>0.01</td><td>10.00</td></tr><tr><td>Staples (box)</td><td>100</td><td>1.00</td><td>100.00</td></tr><tr><td colspan="3">Subtotal</td><td>110.00</td></tr><tr><td colspan="2">Tax</td><td>8%</td><td>8.80</td></tr><tr><td colspan="3">Grand Total</td><td>\$ 118.80</td></tr></table>	Invoice #123456789		14 January 2025		Pay to: Acme Billing Co. 123 Main St. Cityville, NA 12345		Customer: John Smith 321 Willow Way Southeast Northwesternshire, MA 54321		Name / Description	Qty.	@	Cost	Paperclips	1000	0.01	10.00	Staples (box)	100	1.00	100.00	Subtotal			110.00	Tax		8%	8.80	Grand Total			\$ 118.80	6
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	c)	<p>Given the HTML file calc.html,</p> <pre><html> <head></head> <body> <div id="calculator"> <div class="top"> C <div class="input"></div> <div class="result"></div> </div> <div class="keys"> AC 7 8 9 / 4</pre>	5																																

		<pre> 5 6 x 1 2 3 - 0 . = + </div> </div> </body> </pre> <p>Include an external stylesheet in this HTML file and write CSS rules to do the following:</p> <ol style="list-style-type: none"> 1) All font on the page must be Arial 2) The operators +, -, %, and * must appear in yellow 3) Text in the clear key (C key) must appear in red color 4) Moving the mouse over all clear (AC key) key must change its background to red <p>Note: The CSS rules must be written precisely. Ambiguous answers will not be awarded any marks. You are not allowed to make any changes to the given HTML while writing CSS rules.</p>	
	d)	How will you indicate to the browser that your webpage uses HTML5? List two semantic tags and explain their usage. List two input types introduced in HTML5.	4
2.	a)	List out the primitive types in JavaScript. With a neat diagram explain how primitive types and objects are stored in JavaScript	5
	b)	What is NaN? Write a code snippet to create a NaN value? How can you reliably test if a value is equal to NaN?	3
	c)	<p>Explain the concept of variable hoisting. What is the output of the following code?</p> <pre> <script> var salary = "1000\$"; function giveHike() { console.log("Original salary was " + salary); var salary = "5000\$"; console.log("My New Salary " + salary); } giveHike(); </script> </pre>	4
	d)	<p>Write a constructor Vector, that represents a vector in two-dimensional space. It takes x and y parameters (numbers), which it should save to properties of the same name.</p> <p>Give the Vector a method, plus, that takes another vector as a parameter and returns a new vector that has the sum of the two vectors' (the one in this and the parameter) x and y values. Add a property length that computes the length of the vector—that is, the distance of the point (x, y) from the origin (0,0). Write code to demonstrate that the plus method and the length property works.</p>	8
3.	a)	<p>Create a button that is destroyed by clicking on it, but two new buttons are created in its place. The newly created button must have the same behavior as the initial button.</p>	7

	b)	(i) Suppose a div element in a document has id="answerbox". Add a paragraph containing the word "Hello" as a child of that div. (ii) Suppose an element of a document containing some text is referenced in JavaScript using a variable e. How can you make the text bold-faced? (iii) How would you select the body element using document.getElementsByTagName, and store it in the variable body?	3
	b)	What are the different ways to get an element from DOM? In addition to the existing methods if you need to implement getElementsByAttribute method for a given HTML page, how would you implement it? Write code.	7
	c)	Explain the difference between event bubbling and event capturing.	3
4.	a)	(i) Suppose you receive a form submitted using post to subscribe to a newsletter. This form has only one field, an input text field named email . How would you validate whether the field is empty? Print a message " The email cannot be empty " in this case. (ii) The value of the variable input is a PHP string 1,2,3,4,5,6,7. How would you get the sum of the integers contained inside input ?	4
	b)	What is the relevance of the second parameter of the fopen function? What are some possible values of this parameter? Write PHP code to create a new file and write "CSE, PESU" to the file.	4
	c)	A new website is launched and its URL is http://www.letshavefun:9097 . Explain the significance of the last four digits at the end of the URL. Suggest an approach to remove the four digits from the URL.	4
	c)		8

		Design the form shown. Before submitting, validate that the question "When did you first know you wanted to be a zoo-keeper?" has at least 200 characters. Once the form is submitted display a message that says "Thank you <Mr/Ms> <Name> for your application to work with <Animal>. We will get back to you soon". Note: CSS is not required.	
5.	a)	Given a text box whose id="answerbox", how can you populate it with text(if any) that the user has typed into it during his visit to the page five days ago. Suggest two approaches to achieve this. Select the approach that is better in terms of performance and write the code corresponding to your choice.	6
	b)	(i) Bill wants to create a single page website for his hobby shop. Certain parts of the website like the address, items etc. do not change frequently. However, there is an image that he plans to update frequently. Most of his customers have infrequent access to the internet. How can he ensure a seamless browsing experience for them? He must be able to display suitable error pages when required. Include the code relevant for your proposed solution. (ii) Write jQuery such that it selects all inputs that are direct descendants of a form and marks them with a dotted red border	5 (3+2)
	c)	You have been given the task of creating a website for the 2020 Olympics. On the homepage you have to display a video. Due to the variety of the audiences who will view the website you must ensure that all users across the globe are able to view the website irrespective of the browser they use or are presented with a suitable error message. Suggest a solution for this with relevant code.	3
	d)	Write code to create a canvas that looks like the figure given below. The "dashed" line represents the border of the canvas. The black square is 150 px in size and the white square is 50 px in size. Make suitable assumptions regarding the coordinates of the squares. 	6