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17CS71

Seventh Semester B.E. Degree Examination, July/August 2021
Web Technology and It's Applications

Time: 3 hrs.   Max. Marks: 100

Note: Answer any FIVE full questions.

1   a.   What are HTML Elements and Attributes? Explain.   **(06 Marks)**
    b.   Explain the different Relative Link Type Referencing with suitable example.   **(08 Marks)**
    c.   What is CSS? List and explain benefits of CSS.   **(06 Marks)**

2   a.   Explain ordered and unordered list with example.   **(05 Marks)**
    b.   With an example explain CSS Box model.   **(08 Marks)**
    c.   List the different selectors available in CSS and explain in detail.   **(07 Marks)**

3   a.   Create a table that correctly uses the caption, thead, tfoot and tbody elements. Briefly
         discuss the role of each of these elements.   **(10 Marks)**
    b.   What is a responsive design? Why it is important?   **(05 Marks)**
    c.   Explain how rowspan and colspan attributes are used?   **(05 Marks)**

4   a.   Describe how block level elements are different from inline elements. Be sure to describe
         any two different types of inline elements with simple example.   **(10 Marks)**
    b.   In what situations would you use a radio button and a checkbox? With an example explain
         briefly.   **(05 Marks)**
    c.   Explain the role of CSS preprocessors in the web development workflow.   **(05 Marks)**

5   a.   Define software layer? Explain the various common software design layers in Javascript
         with a neat diagram.   **(08 Marks)**
    b.   What are form events in Javascript? List and explain different form events.   **(05 Marks)**
    c.   Demonstrate the use of inline, external and embedded Javascript with an example for each.
                                                                                           (07 Marks)

6   a.   What is Fail-Safe design and why does it matters?   **(04 Marks)**
    b.   Explain Document Object Model. Demonstrate the DOM tree with an example.   **(08 Marks)**
    c.   What are server-side include files? Why are they important in PHP?   **(08 Marks)**

7   a.   What are the superglobal arrays in PHP? What function is used to determine if a value was
         sent via Query string?   **(10 Marks)**
    b.   How do you read or write a file on the server from PHP? Explain with suitable example.
                                                                                           (10 Marks)

8 a. Define Class and Object. Interpret the concept of data encapsulation, Inheritance, Polymorphism and Object interface with respect to OOP. **(10 Marks)**
b. Explain _construct( ) and _destruct( ) with example or each. **(10 Marks)**

9 a. What are HTTP Cookies? How do you handle them in PHP? **(08 Marks)**
b. Why is state is a problem for web application? Explain. **(08 Marks)**
c. What does $() shorthand stand for in jQuery? **(04 Marks)**

10 a. Explain how sessions stored between requests. **(05 Marks)**
b. Write a jQuery selector to get all the <P> that contain the word "Hello". **(05 Marks)**
c. What are the commonly used animations in jQuery? Explain with suitable example. **(10 Marks)**

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Seventh Semester B.E. Degree Examination, July/August 2021
Advanced Computer Architecture

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions.*

1   a.   List the performance factors and system attributes. Explain how performance factors are influenced by system attributes. **(08 Marks)**

   b.   What are the conditions of parallelism? Explain the types of data dependence. **(06 Marks)**

   c.   With a neat diagram, explain the levels of parallelism in program execution on modern computers. **(06 Marks)**

2   a.   Consider the execution of an object code with 2×106 instructions on a 400 MHz processor. The program consists of four major types of instructions. The instruction mix and the number of cycles (CPI) needed for each instruction type are given below based on the result of a program trace experiment.

Instruction type	CPI	Instruction mix
Arithmetic and Logic	1	60%
Load/store with cache hit	2	18%
Branch	4	12%
Memory reference with cache miss	8	10%

   i)   Calculate the average CPI when the program is executed on a uniprocessor with the above trace results.

   ii) Calculate the corresponding MIPS rate based on the CPI obtained. **(07 Marks)**

   b.   Explain the architecture of vector super computer with a neat diagram. **(07 Marks)**

   c.   Discuss in detail : i) UMA model   ii) NUMA model   iii) COMA model. **(06 Marks)**

3   a.   Explain the architecture of VLIW processor and its pipeline operations. **(08 Marks)**

   b.   Distinguish between typical RISC and CISC processor architectures. **(06 Marks)**

   c.   With a neat diagram, explain the hierarchical memory technology. **(06 Marks)**

4   a.   Explain Inclusion, Coherence and Locality properties. **(06 Marks)**

   b.   Briefly explain the virtual memory models for multiprocessor system. **(06 Marks)**

   c.   With a diagram, explain a typical superscalar RISC processor architecture consisting of an integer unit and a floating point unit. **(08 Marks)**

5   a.   Explain bus arbitration and its types in multiprocessor systems. **(08 Marks)**

   b.   Explain Prefetch buffer and Internal data forwarding mechanism used in instruction pipelining. **(06 Marks)**

   c.   Explain Sequential and Weak consistency models. **(06 Marks)**

6   a.   Explain with diagram, the Backplane bus specification. **(06 Marks)**

   b.   Explain multiply pipeline design to multiply two 8 bit integers
        X = 10110101   ,   Y = 10010011. **(06 Marks)**

c. For the reservation table of a non linear pipeline shown below :

	0	1	2	3	4
S_1	X				X
S_2			X		
S_3				X	

    i)   What are the forbidden latencies? Write initial collision vector.
    ii)   Draw the state transition diagram.
    iii) List all simple cycles and greedy cycles.
    iv) Determine MAL. **(08 Marks)**

7 a. Explain briefly different vector access memory schemes. **(06 Marks)**
   b. Explain four context switching policies. **(08 Marks)**
   c. Explain routing in Omega network. **(06 Marks)**

8 a. Explain Snoopy protocols, with its approaches. **(10 Marks)**
   b. With a diagram, explain the architecture of the connection machine CM - 2. **(10 Marks)**

9 a. Explain the fairness policies and sole access protocols in the principles of synchronization. **(07 Marks)**
   b. What are the major hurdles of pipelining? Illustrate the branch hazards in detail. **(07 Marks)**
   c. Define Parallel programming model. Explain any 2 models. **(06 Marks)**

10 a. What are the issues in using shared variable model? **(07 Marks)**
    b. With the help of a neat diagram, explain compilation phases in code generator. **(07 Marks)**
    c. Explain different language features for parallelism. **(06 Marks)**

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Eighth Semester B.E. Degree Examination, July/August 2021
Big Data Analytics

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions.*

1   a.   What is HDFS? Explain its components with a neat diagram.   (10 Marks)
    b.   Explain HDFS safemode and rack awareness, with neat diagram.   (10 Marks)

2   a.   What is MapReduce Program? Explain MapReduce parallel data flow, with neat functional diagram.   (10 Marks)
    b.   What is Nano node federation? Explain NaneNode high availability design with diagram.   (10 Marks)

3   a.   Explain Apache Sqoop Import and Export methods, with neat diagram.   (10 Marks)
    b.   How do you run MapReduce and message passing interface on Yarn architecture?(10 Marks)

4   a.   Explain with a neat diagram, the Apache Oozie work flow for Hadoop architecture.
                                                                                      (10 Marks)
    b.   What is YARN? Explain Yarn application frame work.   (10 Marks)

5   a.   What is Business Intelligence? List the different BI applications and explain in detail any four applications.   (10 Marks)
    b.   Draw and explain flow of BIDM cycle. Explain the Strategic and Operational decisions.
                                                                                      (10 Marks)

6   a.   Explain CRISP DM cycle, with neat diagram.   (10 Marks)
    b.   Define Data warehouse and illustrate design considerations for data warehouse. (10 Marks)

7   a.   What is Association Rule? Explain below given rules with suitable examples :
         i) Support   ii) Confidence   iii) Lift.   (10 Marks)
    b.   What is Unsupervised Machine Learning concept? Explain K – Means clustering techniques, with suitable example.   (10 Marks)

8   a.   Write and explain Apriori Algorithm with example.   (10 Marks)
    b.   List and explain the steps for developing an ANN (Artificial Neural Network). (10 Marks)

9   a.   Discuss the application and practical consideration of Social network Analysis. (10 Marks)
    b.   Explain the 3 types of Web mining. Use appropriate flow diagrams to represent the same.
                                                                                      (10 Marks)

10 a.   Explain the Text Mining process and the architecture.   (10 Marks)
    b.   Briefly explain the Data Mining. Compare text mining and data mining.   (10 Marks)

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