WEB ENGINEERING

Monday 22nd April 2024 - Afternoon

Answer any THREE questions out of FIVE. All questions carry equal marks.

Time: THREE hours

Answer any Section A questions you attempt in Answer Book A
Answer any Section B questions you attempt in Answer Book B

The marks given in brackets are indicative of the weight given to each part of the question.

Calculators are NOT allowed in this examination.
Section A
Answer Section A questions in Answer Book A

A1.
   a) Evaluate how the use of backups and archives assists in providing resilience for web applications giving THREE examples of their use. Include an advantage and disadvantage of each.   
      (13 marks)
   b) Describe FOUR principal RAID architectures and assess how each can be used to improve resilience in web applications.   
      (12 marks)

A2.
   a) Evaluate THREE methods that can be used to input data to a web application and assess when it is appropriate to use each.   
      (9 marks)
   b) Assess why it is important to validate all input to a web application. Give THREE examples of why this is necessary.   
      (16 marks)

A3.
   a) Explain what is meant by media convergence and evaluate THREE ways it has affected our everyday lives.   
      (13 marks)
   b) Assess FOUR consequences, either technical or social, of media convergence.   
      (12 marks)

Section B
Answer Section B questions in Answer Book B

B4.
   a) Explain the purpose of the following when developing web applications:
      i. XML   
      ii. XHTML   
      iii. XSLT   
      iv. DOM   
      (16 marks)
   b) Assess the roles played by each in a typical web application, and how they interact to improve the user experience.   
      (9 marks)

B5.
   a) Discuss what is meant by generative Artificial Intelligence and give an example of such a system that is available for general use.   
      (10 marks)
   b) Evaluate THREE potential uses of generative Artificial Intelligence and assess at least ONE advantage and potential disadvantage of each.   
      (15 marks)

END OF EXAMINATION