TY BSJT - V sem

NOV - 2018

UNIVERSITY PAPER

T.Y.BSCIT

SEM-V

NOV. - 2018

Clinix system + Next Jeneration)

TYIT

V

No X

Paper / Subject Code: 53703 / Advanced Web Programming

(2½ Hours)

[Total Marks: 75]

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Attempt *any three* of the following:

a. What is namespace? Explain with the help of an example.
b. Explain jagged array with an example.
c. What is .NET Framework? Explain its architecture in brief.
d. Write a program in C# to demonstrate multiple inheritance using interfaces.
e. Explain various types of constructors in C#.
f. What is delegate? Explain multicast delegate with an example.

2. Attempt *any three* of the following: **15**

a. What is the difference between ListBox and Drop Down List? List and explain any three common properties of these controls.
b. Explain AdRotator control with an example.
c. List and explain any four types of validation controls used in ASP.NET.
d. Explain Calendar control with an example in ASP.NET.
e. Write short note on Page class.
f. Explain SiteMapPath control in ASP.NET

3. Attempt *any three* of the following: **15**

a. What is user-defined exception? Explain with example.
b. What is debugging. Explain the process of debugging in detail.
c. Write short note on cookies in ASP.NET.
d. What is ViewState in ASP.NET? State its Advantages and Disadvantages.
e. Create a web application to demonstrate use of Master Page with applying styles and themes for page beautification. Write necessary steps with code for the same.
f. Explain the four most important selectors present in CSS.

4. Attempt *any three* of the following: **15**

a List and Explain ADO.NET objects
b What is DataReader in ADO.NET? Explain with an example.
c Explain SqlDataSource in ADO.NET.
d What is a GridView control? Explain with an example
e What are the application services provided in ASP.NET? Explain.
f Differentiate between FormView and DetailsView in ASP.NET.

5. Attempt *any three* of the following: **15**

a. Explain XmlTextReader and XmlTextWriter with an example.
b. What is XElement? Explain with an example.
c. What do you mean by authentication? Explain its types.
d. What do you mean by Impersonation in ASP.NET? Explain.
e. Explain ASP.NET AJAX Control Toolkit.
f. Create a web application to demonstrate the use of HTMLEditorExtender Ajax Control. Write the code of default.aspx and required property settings for the same.

TYBSIT I

(2½ Hours)

[Total Marks: 75]

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Attempt *any three* of the following: **15**

a. Define and explain the Internet of Things
b. "Any sufficiently advanced technology in indistinguishable from magic". Discuss.
c. Explain calm and ambient technology using example of Live Wire.
d. What is manufactured normalcy field? Explain.
e. Differentiate between static IP address and Dynamic IP address.
f. Define protocol. Explain the following application layer protocols: HTTP, HTTPS, SMTP, FTP

2. Attempt *any three* of the following: **15**

a. Discuss the tradeoffs between cost versus ease of prototyping.
b. What are the challenges when we move from prototype to mass production? Explain.
c. Discuss open source versus closed source hardware and software. State their advantages and disadvantages.
d. Explain the following with respect to prototyping embedded devices: Processor Speed, RAM, Networking, USB, Power Consumption and Physical Size and Form Factor.
e. How is development done for Arduino? Explain.
f. Compare Raspberry Pi and Arduino.

3. Attempt *any three* of the following: **15**

a. Explain the non-digital methods of prototyping.
b. What are laser cutters? Explain the main features to consider while choosing a laser cutter.
c. Explain the different methods used for 3D printing.
d. Discuss the different standards that must be considered while implementing APIs.
e. Explain POLLING and COMET.
f. Write a short note on Message Queuing Telemetry Transport Protocol.

4. Attempt *any three* of the following: **15**

a Discuss the limitations of memory in embedded devices. How is it managed? Explain.
b What are the concerns regarding performance and battery life while writing code for embedded systems?
c Write a short note on Libraries for embedded systems.
d What is a business model? Who is the business for? Explain.
e Explain the following business models: Make Thing Sell Thing, Subscriptions, Customisation.
f Write a short note on venture capital.

[TURN OVER]

5.	**Attempt *any three* of the following:**	**15**
a.	What are the different software options for designing PCB? Explain.	
b.	Explain the steps for manufacturing PCBs.	
c.	What is the importance of Certification for IoT devices? Explain.	
d.	Explain privacy with respect to Internet of Things.	
e.	Discuss the five critical requirements for sensor commons project.	
f.	Write a short note on cautious optimism.	

EDA6E072CE5629FD81848DD5407D892C

Paper / Subject Code: 53701 / Software Project Management

TYIT - I sem

(2½ Hours) **[Total Marks: 75]**

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. **Attempt *any three* of the following:** **15**

a. Briefly explain the different phases of project management life cycle.
b. What is project charter in software project management? What are the elements of project charter?
c. What is project portfolio management? Explain the key aspects of project portfolio management.
d. Define the following terms:
i)Net profit ii)Return on Investment iii)Payback period iv)Net present value v)Internal rate of return
e. What is a project product? Explain Product Breakdown Structure with the help of example.
f. What do you mean by scope and objective of a project? List the activities involved in identifying project scope and objective.

2. **Attempt *any three* of the following:** **15**

a. What do you understand by the term 'ceremonies' in a scrum project? Explain the different types of ceremonies that are observed in a Scrum project and their significance.
b. List the advantages and disadvantages of software prototyping.
c. Explain the five major components of Albrecht Function Point Analysis.
d. What are effort multipliers in COCOMO II model? List the effort multipliers used at early design.
e. Explain eight core principles of Dynamic Systems Development Method.
f. State Capers Jones rules of thumb for software estimation.

3. **Attempt *any three* of the following:** **15**

a. With the help of example explain forward pass and backward pass to calculate activity duration in network diagram.
b. Define the following terms
i)Critical path ii)Float iii)Free float iv)Interfering float v)Hammock activity
c. Explain Boehm's top ten software project risks and the different strategies for reducing it.
d. Write short note on Project Evaluation and Review Technique.
e. Explain the different categories of cost incurred in a software project.
f. What is resource smoothing? Explain two different ways of prioritizing activities for resource allocation.

[TURN OVER]

4. Attempt *any three* of the following: **15**

a Explain review process model with the help of diagram.

b What is meant by software configuration management? Explain the two principal activities of configuration management.

c Explain the main sections in a requirement document for contract placement.

d What is fixed price contract? List the advantages and disadvantages of fixed price contract.

e What are three important categories of stress management techniques?

f Explain Vroom's expectancy theory of motivation.

5. Attempt *any three* of the following: **15**

a. Explain the advantages of a functional organization over project organization.

b. List the obstacles to good group decision making. Also explain Delphi decision making process.

c. Write short note on SEI capability maturity model.

d. What is reliability growth model? Explain any two reliability growth models.

e. What are the steps of conducting a post implementation project review?

f. Explain the different reason for which a project may need to be terminated.

TYIT

(2½ Hours)

[Total Marks: 75]

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Attempt *any three* of the following:

a. Explain the architecture of Java Enterprise Application.
b. Classify the EE Containers. Explain.
c. Write a short note on javax.servlet package.
d. Explain the life cycle of a servlet application.
e. Explain the architecture of JDBC.
f. Explain the architecture of Java Enterprise Application.

2. Attempt *any three* of the following: **15**

a. Explain the importance of RequestDispatcher Interface in javax.servlet. Add suitable example to explain the methods of the interface.
b. Explain how java handles session management of a servlet application through HTTPSession.
c. What is cookie? Explain the need of the creation of the same. Explain the methods of cookie class that facilitative the creation, manipulation and deletion of the cookies.
d. What is Non-Blocking I/O? Explain WriteListener and ReadListener performing in Non-Blocking I/O?
e. Explain the working of Non-Blocking I/O.
f. Explain about the file uploading feature of a servlet.

3. Attempt *any three* of the following: **15**

a. What are directives in JSP? Explain page directive in detail. (With all its attributes)
b. What is EL? Explain immediate EL, deferred EL, LValue and RValue in detail.
c. Explain the advantages of JSTL over JSP.
d. Explain JSTL core Tag Library.
e. Explain the implicit objects of JSP.
f. Explain the various scope of JSP application.

4. Attempt *any three* of the following: **15**

a Explain about enterprise bean container.
b What are the different types of beans? Explain.
c Explain the working behind message driven bean.
d Explain the concept of naming service. Add suitable illustration to it.
e Explain basic look up in JNDI. Also explain resource injection in JNDI.
f Explain the life cycle of an interceptor.

5. Attempt *any three* of the following: **15**

a. Explain the persistent standards available in java.
b. Draw and explain the architecture of hibernate framework.
c. Explain JPA Architecture with the help of a neat diagram.
d. What is Impedance Mismatch? How it can be solved?
e. Explain different components of hibernate.
f. Explain the modus operandi behind hibernate application.

4E7D7EB518DFF8AC17897B5222E53F5A

IT V

Paper / Subject Code: 53704 / Artificial Intelligence

(Time: 2½ hours) **Total Marks: 75**

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculators is **allowed**.

1. Attempt *any three* of the following: **15**

a. What is Artificial Intelligence? State its applications
b. Discuss Turing test with Artificial Intelligence approach.
c. What are agents? Explain how they interact with environment.
d. What is rational agent? Discuss in brief about rationality.
e. Explain PEAS description of task environment for automated taxi.
f. Give comparison between Full observable and partially observable agent.

2. Attempt *any three* of the following: **15**

a. Discuss in brief the formulation of single state problem.
b. Give the outline of Breadth First Search algorithm.
c. Give the outline of tree search algorithm.
d. Explain the mechanism of genetic algorithm.
e. Explain how transition model is used for sensing in vacuum cleaner problem.
f. Give the illustration of 8 queen problem using hill climbing algorithm.

3. Attempt *any three* of the following: **15**

a. Explain the working mechanism of min-max algorithm.
b. Explain in brief about resolution theorem.
c. Write a note on Kriegspiel's Partially observable chess.
d. Explain in brief about knowledge base agent.
e. Explain the syntax for propositional logic.
f. Write a note on Wumpus world problem.

4. Attempt *any three* of the following: **15**

a. What is first order logic? Discuss the different elements used in first order logic.
b. Explain universal and existential quantifier with suitable example.
c. Convert the following natural sentences into FOL form:
   i. Virat is cricketer.
   ii. All batsman are cricketers.
   iii. Everybody speaks some language
   iv. Every car has wheel.
   v. Everybody loves somebody some time.
d. What is knowledge engineering? Write the steps for its execution.
e. Give comparison between forward chaining and backward chaining
f. Explain in brief about unification.

5. Attempt *any three* of the following: **15**

a. What is planning? Explain STRIPS operators with suitable example.
b. Explain in brief about partially ordered plan.
c. Explain in brief about hierarchical planning.
d. Write a note on mutex relation.
e. What is semantic network? Show the semantic representation with suitable example.
f. Write a note on Event calculus.
