D 10593 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Computer Science

BCS 5B 10—PRINCIPLES OF SOFTWARE ENGINEERING

(2019 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answer Type Questions)

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. What is software process model ?
2. List out various fundamental activities in software process.
3. Briefly explain various phases of incremental process model.
4. Briefly explain various requirement modeling strategies in requirement engineering.
5. What is requirement validation process in requirement engineering ?
6. What is UML ? Explain its features.
7. What are the elements in state chart diagrams ?
8. What do you mean by modularization ?
9. Briefly explain various strategic approach in software testing.
10. What is the need of software maintenance ?
11. Write short note on software re-engineering.
12. Write short note on software maintenance.

(8 × 3 = 24 marks)

Section B (Short Essay Type Questions)

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Explain in detail various phases in SDLC.
14. Differentiate waterfalls model and spiral model.

Turn over

15. What is requirement elicitation and analysis in requirement engineering process ?

16. Compare and contrast between behavioral and structural diagrams in UML.

17. Explain various object-oriented concepts that are needed for conceptual modeling in UML.

18. Briefly explain structured coding techniques in software engineering.

19. Describe in detail concurrency mechanism in modern programming language.

(5 × 5 = 25 marks)

Section C (Essay Type Questions)

Answer any **one** *question.*
The question carries 11 *marks.*

20. What is Agile Process Model in software development ? Explain the various Agile Process Models in detail.

21. Explain in detail :

    a) Types of software testing.

    b) Testing and debugging.

(1 × 11 = 11 marks)

D 10592 (Pages : 2) Name.....

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FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Computer Science

BCS 5B 09—WEB PROGRAMMING USING PHP

(2019 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answer Type Questions)

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. Differentiate between static web pages and dynamic web pages.
2. What are the basic HTML data types ? Explain each.
3. How will you upload files using forms in HTML ?
4. Why did you use script tags ? Explain.
5. Mention relational operators and logical operators in JavaScript.
6. When does onload event occur in JavaScript ? Give example.
7. What is server side scripting ? Discuss its advantages.
8. How did you use comments in PHP ?
9. Discuss different variable scopes in PHP.
10. What are sessions ? How will you invoke a session in PHP ?
11. Write a short note on SELECT INTO statement.
12. Discuss the use of pg_query() and pg_execute() functions.

(8 × 3 = 24 marks)

Section B (Short Essay Type Questions)

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Write notes on CSS lists and CSS tables with examples.
14. With the help of examples explain array objects and string objects in JavaScript.

Turn over

15. How did you write user defined functions in PHP ? Explain with an example.

16. Compare GET method and POST method in PHP.

17. Write and explain any five string functions used in PHP.

18. What is PostgreSQL ? Describe its features.

19. What is AJAX ? How did you implement AJAX in PHP ?

(5 × 5 = 25 marks)

Section C (Essay Type Questions)

Answer any **one** *question.*
Each question carries 11 *marks.*

20. Describe document structure in HTML. Also explain different tags in it.

21. What are the different conditional statements and looping statements used in PHP ? Explain each with examples.

(1 × 11 = 11 marks)

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Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Computer Science

BCS 5B 08—JAVA PROGRAMMING

(2019 Admissions)

Time : Three Hours Maximum : 60 Marks

Section A

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. List out various characteristics of Object-Oriented languages.
2. What is meant by Encapsulation ?
3. Explain how java is platform independent.
4. What do you mean by constructor in java ?
5. What is an abstract class ?
6. What is stream and stream classes in Java ?
7. Differentiate between Process and Thread in java.
8. What are the JDBC statements ?
9. What is an Applet ?
10. Write short note on event handling in java.
11. What are the various AWT components ?
12. Briefly explain the life cycle of Applets.

(8 × 3 = 24 marks)

Section B

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Compare and contrast between Object oriented and procedure Oriented programming.
14. Explain various type of access specifiers in java.
15. Differentiate between Method Overloading and Method Overriding in Java.
16. What are the benefits of using packages ? Write down the steps in creating a package.
17. Write a java program to create an applet which display human face.
18. Explain detail JDBC interfaces and classes in java.
19. Write java program to copy content of a file to other.

(5 × 5 = 25 marks)

Section C

Answer any **one** *question.*
The question carries 11 *marks.*

20. Describe the different forms of inheritance in Java language. Explain with sample code.
21. Explain how user defined exceptions are handled in java. Explain with example.

(1 × 11 = 11 marks)

D 10590 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Computer Science

BCS 5B 07—COMPUTER ORGANIZATION AND ARCHITECTURE

(2019 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. How do you represent positive and negative logic ?
2. What are the characteristics of an AND gate ? Explain the operation of an AND gate with logic diagram and Truth Table.
3. Draw the circuit diagram to show how a NAND gate can be used as a NOT gate.
4. Differentiate between the combinational circuits and sequential circuits.
5. Differentiate between an SR flip-flop and an SR latch.
6. What is a shift register ?
7. Explain various phases in the instruction cycle of a basic computer.
8. What is control memory ?
9. Describe in detail cache memory.
10. List out various data transfer modes in IO module.
11. Explain strobe and handshaking in detail.
12. Define Hit ratio.

(8 × 3 = 24 marks)

Turn over

Section B

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. What are universal gates ? Why they are so called ? Explain with example.
14. Explain in detail, clock signals and triggering in sequential logic circuits.
15. What is counter ? Explain synchronous counters with necessary diagram.
16. Describe in detail Input-output configuration of a basic computer.
17. Describe in detail basic computer instruction formats with example.
18. Describe various addressing modes.
19. Explain IO Bus and Interface module in detail.

(5 × 5 = 25 marks)

Section C

Answer any **one** *question.*
The question carries 11 *marks.*

20. What is combinational circuits? Explain any *five* with diagram and truth table.
21. Explain the organization of a micro programmed computer with a block diagram.

(1 × 11 = 11 marks)

D 10141 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Computer Science

BCS 5B 10—PRINCIPLES OF SOFTWARE ENGINEERING

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Define software process.
2. What is SDLC?
3. Define requirement engineering.
4. What you meant by SRS ?
5. Define modularity.
6. Define object.
7. What is the purpose of data typing ?
8. Define recursion.
9. What is Test case ?
10. What is Forward Engineering?

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 3 *marks.*

11. What are the umbrella activities of a software process ?
12. What are the objectives of requirement analysis ?
13. Write a note on information hiding.

14. Explain about concurrency control.

15. Explain unit testing.

(5 × 3 = 15 marks)

Part C

Answer any **five** *questions.*

Each question carries 5 *marks.*

16. Write a note on agile unified process.

17. Explain about the incremental process model ?

18. What is feasibility study ? What are the contents we should contain in the feasibility report ?

19. Write a note on Quality Function Deployment.

20. Explain Activity Diagrams in detail.

21. Write a note on Alpha and Beta Testing.

22. Explain coding guidelines.

23. Explain smoke testing.

(5 × 5 = 25 marks)

Part D

Answer any **three** *questions.*

Each question carries 10 *marks.*

24. Give detail explanation about agile process.

25. What are the Requirements Engineering Process Functions ? Explain each one.

26. Briefly describe the elements of a design model.

27. What is a good coding style ? Explain the element in coding style.

28. What do you mean by system testing ? What are the various types of system testing ?

(3 × 10 = 30 marks)

D 10140 (Pages : 3) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Computer Science

BCS 5B 09—WEB PROGRAMMING USING PHP

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. PHP Stands for ?
2. What is the use of header() function in PHP ?
3. What is Open Source ?
4. What do you mean by controlled redundancy ?
5. How a variable is declared in PHP ?
6. How many data types are there in PHP ?
7. Write down the syntax for throwing error message in PHP.
8. Give the syntax for grouping data in PostgreSQL.
9. Define AJAX.
10. What is Scripting ?

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 3 marks.

11. What is difference between ordered list and unordered list ?
12. What do you mean by CSS ?

Turn over

13. Explain following CSS background properties with an example :—

    i) background-repeat.

    ii) background-position.

    iii) background-color.

14. Write a JavaScript code to input a number from user into variable *n*, display table of factorials up to *n*.

15. Short notes on PostgreSQL integration.

(5 × 3 = 15 marks)

Part C

Answer any **five** *questions.*
Each question carries 5 *marks.*

16. Explain any *five* text formatting tags in HTML

17. Define Style sheet. What is the purpose of following CSS Text style properties in HTML?

    i) text-align.

    ii) text-transform.

    iii) text-decoration.

    iv) color.

18. With proper example describe table tag in HTML.

19. What is the use of Math object in JavaScript ? Explain its five methods with example.

20. Explain how event handling is done in JavaScript.

21. Describe looping statements in PHP.

22. What is the use of the following CSS selectors ? Explain with example : —

    i) .class

    ii) . #id

23. Write a PHP script to insert record into Emp database with following fields in Info table Empno, Ename and Age.

(5 × 5 = 25 marks)

Part D

Answer any **three** *questions.*
Each question carries 10 *marks.*

24. Explain HTML document structure with suitable example.

25. Explain the following table tags in HTML with example :—

    i) <table>

    ii) <tr>

    iii) <th>

    iv) <td>

    v) <table align=" right">

26. What is Array ? Explain types of array with suitable example.

27. Discuss in brief the HTTP GET and POST methods.

28. Diagrammatically explain AJAX Web Application Model.

(3 × 10 = 30 marks)

D 10139 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Computer Science

BCS 5B 08—JAVA PROGRAMMING

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Write the definition of *class*.
2. What is polymorphism ?
3. What is JVM ?
4. What is Boolean data type ?
5. What is the use of *break* statement ?
6. Write on the ternary operator in Java.
7. Define *thread.*
8. What is the use of *implements* keyword ?
9. What is SQL ?
10. What is the use of repaint( ) method in applet ?

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 3 *marks.*

11. Write on hierarchical inheritance.
12. Explains arrays in Java.
13. Explain *this* keyword.
14. What is File class ?
15. Write on AWT components.

(5 × 3 = 15 marks)

Turn over

Part C

Answer any **five** *questions.*

Each question carries 5 *marks.*

16. Compare procedure-oriented and object-oriented programming.
17. Write a Java program to implement single inheritance.
18. Explain for loop with the help of example.
19. Explain the use of *final* keyword.
20. Write on packages in Java.
21. Write on applet life cycle.
22. How to create a thread by implementing Runnable interface ?
23. Write on event listener interfaces.

(5 × 5 = 25 marks)

Part D

Answer any **three** *questions.*

Each question carries 10 *marks.*

24. Write on polymorphism with examples.
25. Explain interface with the help of an example.
26. Write on different types of JDBC drivers.
27. Explain event handling in detail.
28. Explain the life cycle of a thread in detail.

(3 × 10 = 30 marks)

D 10138 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Computer Science

BCS 5B 07—COMPUTER ORGANIZATION AND ARCHITECTURE

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is T Flip Flop ?
2. Draw the truth table of SR flip flops.
3. What are the basic logic gates ?
4. Which gates are called universal gates and what are its advantages ?
5. Write the characteristic equation of a JK flip-flop.
6. What is a virtual memory on a computer ?
7. What are the different types of interrupts in a microprocessor system ?
8. Define the term Computer Architecture.
9. What is register ?
10. What is mean by instruction ?

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 3 *marks.*

11. Compare Latches and Flip Flops.
12. Draw the logic symbol and truth table of NAND gate.
13. What is shift register ?
14. What is instruction Register (IR) and Program Counter (PC) used for ?
15. Explain hit/miss ratio.

(5 × 3 = 15 marks)

Turn over

Part C

Answer any **five** *questions.*
Each question carries 5 *marks.*

16. Define BCD to 7-segment decoders.
17. With neat diagram explain the working of a parallel in serial out shift register.
18. Define interrupt. Why priority of interrupt is required ? How it is restored ?
19. Differentiate multiplexers and demultiplexers.
20. Discuss the operations on basic logic gates.
21. What are addressing modes. Explain it.
22. Briefly explain about I/O Controllers.
23. Explain the working of any five memory reference instructions.

(5 × 5 = 25 marks)

Part D

Answer any **three** *questions.*
Each question carries 10 *marks.*

24. Explain Master Slave flip-flop with circuit diagram.
25. Explain DMA in detail.
26. Explain the following in detail :
    a) Half Adder. b) Full Adder.
    c) Encoder. d) Decoder.
27. Explain Data Transfer and Manipulation Instructions.
28. Define cache memory and explain the mapping techniques.

(3 × 10 = 30 marks)

D 10137 (Pages : 3) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Computer Science

BCS 5B 11—PRINCIPLES OF SOFTWARE ENGINEERING

(2014 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carrics 1 *mark.*

1. The process of developing a software product using software engineering principles and methods is referred to as :

   A) Software myths. B) Scientific Product.

   C) Software Evolution. D) None of the above.

2. What is the main aim of Software engineering ?

   A) Reliable software.

   B) Cost effective software.

   C) Reliable and cost effective software.

   D) None of the above.

3. The following is not a step of requirement engineering :

   A) Design. B) Elicitation.

   C) Documentation. D) Analysis.

4. The most important stakeholder is ————.

   A) Middle-level stakeholder. B) Entry level personnel.

   C) Users of the software. D) Managers.

5. In a DFD, an originator or data receiver is usually designated by :

   A) A square box. B) A circle.

   C) A rectangle. D) None of these.

6. What does the physical connection between the elements of the OO design represent ?

   A) Cohesion. B) Coupling.

   C) Both A) & B). D) None of the above.

Turn over

7. Hiding the implementation complexity can :

   A) Make the programming easy. B) Make the programming complex.

   C) Provide more number of features. D) Provide better features.

8. An inspection is regarded as a proper testing activity rather than an activity to evaluate a work product for suitability :

   A) True.

   B) False.

9. System testing is a :

   A) Black box testing. B) Grey box testing.

   C) White box testing. D) Both (A) and (B).

10. Who leads a walk through ?

    A) Author. B) Moderator.

    C) Reviewer. D) Scribe.

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 2 *marks.*

11. Give the importance of software engineering.
12. What are the non-functional requirements of software ?
13. What is the purpose of use case diagram ?
14. What is the use of Unit testing in coding ?
15. How do you define test plan ?

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 *marks.*

16. Write a note on process improvement and feedback.
17. What are the different advantages offered by ETVX model for effective verification and validation ?
18. Why software requirement specification is important ?
19. What are the differences between verification and validation in software development ?

20. Briefly describe the different steps in Test Planning.

21. What is cohesion? Explain different levels of cohesion.

22. 'Information hiding is an effective tool for managing the complexity of developing software'. Justify.

23. Justify the importance of testing process.

(5 × 4 = 20 marks)

Part D

Answer any **five** *questions.*
Each question carries 8 *marks.*

24. What is the relationship between a process, process model and process specification for a project ?

25. Explain the various types of models which is used in software Engineering.

26. What steps are required to establish ground work for understanding software requirements ?

27. Develop a complete use case for making a withdrawal at an ATM.

28. Briefly describe each of the four elements of the design model.

29. What is structured design methodology in software engineering ?

30. Explain Incremental coding Process.

31. Explain black box testing method in detail.

(5 × 8 = 40 marks)

D 10136 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Computer Science

BCS 5B 10—WEB PROGRAMMING USING PHP

(2014 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1) What is HTML ?
2) Name two scripting languages.
3) How PHP supports editing of data with HTML form ?
4) What is use of Nan() method in JavaScript ?
5) How do you increase the session expire time in PHP ?
6) What is PHP ?
7) What is a session ?
8) What is the use of POST method in PHP ?
9) Name any two directory functions.
10) What is WAMP ?

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 2 *marks.*

11) What is static variable ?
12) Differentiate get and post methods.
13) How do you configure PHP environment ?
14) Explain the function and syntax of foreach() method in PHP.
15) What are the various ways to represent multi line and single line comments in PHP ?

(5 × 2 = 10 marks)

Turn over

Part C

Answer any **five** *questions.*
Each question carries 4 *marks.*

16) Write a note on super global arrays.

17) Explain Frames and Frame sets in HTML.

18) Explain Date object in JavaScript, with its properties and methods.

19) With suitable examples, explain numeric and associate Arrays in PHP.

20) Write down an HTML form and a PHP File that contain the code for uploading a file.

21) Write a JavaScript function to check whether a checkbox is unchecked in a form.

22) Explain with an example data validation and its importance.

23) Write a PHP code to connect to database.

(5 × 4 = 20 marks)

Part D

Answer any **five** *questions.*
Each question carries 8 *marks.*

24) Write any eight basic tags in HTML with example.

25) Design an HTML code to create a web page containing an application form to input your Bio-data. (The bio -data should contain text boxes, radio buttons, submit and reset buttons appropriately).

26) Differentiate between Client-side and Server-side Scripting with suitable examples.

27) Discuss the different database related functions in PHP.

28) Explain the Commands needs to establish the connection between PHP and MySQL.

29) Describe the Control structures in PHP with example.

30) List different Content Management Tools and state their advantages.

31) Give detailed account on Different datatypes in MySQL.

(5 × 8 = 40 marks)

D 10135 (Pages : 3) Name.....

Reg. No.....

FIFTH SEMESTER U.G. (CUCBCSS-UG) DEGREE EXAMINATION NOVEMBER 2021

Computer Science

BCS 5B 09—JAVA PROGRAMMING

(2014 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. ———— is the process by which one object acquires the properties of another object.
2. ———— variables are used to define attributes or the state of a particular object and used to store information needed by multiple methods in the objects.
3. The java compiler
   (a) Creates executable.
   (b) Translates java source code to byte code.
   (c) Creates classes.
   (d) Produces java Interpreter.
4. What is the name of the method used to schedule a thread for execution?
   (a) init(). (b) start().
   (c) run(). (d) resume().
5. The ———— interface is used to identify objects that may be written to an output stream.
6. Which of the following method is called when an applet starts ?
   (a) init(). (b) start().
   (c) paint(). (d) None of the above.
7. All the classes in a package can be simultaneously imported using ————.
8. JDBC stands for ————.

9. Say True *or* False :

   The finally block is executed when an exception is thrown, even if no catch matches it.

10. Say True *or* False :

    The suspend () method is used to terminate a thread.

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 2 *marks.*

11. Differentiate between *break* and *continue* statements in Java.
12. What is object ? How it differs from class ?
13. Explain the use of *try . . . catch* block in Java.
14. What are the typical uses of JDBC ?
15. How will you create and execute applets in Java ?

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 *marks.*

16. Explain *switch* statement with example.
17. Differentiate between method overloading and method overriding with example.
18. Distinguish between interface and polymorphism.
19. What is thread? Explain how it is implemented in Java.
20. Explain how do you represent a URL in Java.
21. Explain the structure of AWT.
22. Describe the steps for creating packages in Java.
23. Explain the major tasks of input and output stream classes.

(5 × 4 = 20 marks)

Part D

Answer any **five** *questions.*
Each question carries 8 *marks.*

24. What is polymorphism ? Explain how it is implemented in Java with example.

25. Write a Java program to add two matrices using operator overloading.

26. Explain the different types of JDBC statements with examples.

27. Write an applet program that receives three numeric values as input from the user and then displays the largest of the three on the screen.

28. What is finally block? When and how it is used? Give suitable example.

29. Describe the different forms of inheritance with example.

30. Explain the different stages in the life cycle of an applet.

31. What is exception ? Explain the different exception handling mechanism in Java with example.

(5 × 8 = 40 marks)

D 10134 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

Computer Science

BCS 5B 08—COMPUTER ORGANIZATION AND ARCHITECTURE

(2014 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Name the component of a computer instruction that specify the operation for specific instructions.
2. Name the instruction which increments the word determined by effective address.
3. If the control signals are generated by combinational logic, then they are generated by a type of ———— controlled unit.
4. Find the l's compliment of '0001'.
5. Special type of memory that is optimized for performing searches through data is ————.
6. Name the storage device which uses laser beams to read and write data.
7. ———— is the series of microchips that helps in the communication of data between mother board and CPU.
8. ———— is used to transfer information between internal storage and external I/O devices.
9. Name the architecture which is capable of executing multiple instructions on multiple data sets.
10. The small, extremely fast RAM's all called as_____.

(10 × 1= 10 marks)

Part B

Answer **all** *questions.*
Each question carries 2 *marks.*

11. What is direct addressing mode ?
12. What are peripheral devices ? Give examples.

Turn over

13. How are floating-point numbers represented in computer systems ?

14. What is virtual memory ?

15. Define latency.

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 *marks.*

16. Explain different memory reference instructions.

17. Write a short note on address sequencing.

18. Write a short note on how accumulator logic is designed.

19. Differentiate between RAM and ROM.

20. Explain the process of floating-point number addition with suitable example.

21. Distinguish between magnetic and optical storage device.

22. What are the different types of hazards ?

23. Describe stack organization.

(5 × 4 = 20 marks)

Part D

Answer any **five** *questions.*
Each question carries 8 *marks.*

24. Give a detailed account on different data manipulation instructions used in computer organization.

25. Explain different phases of instruction cycle.

26. Sketch the internal organization of CPU along with its functionalities with block diagram.

27. Explain modes of addressing used in assembly language instruction with suitable examples.

28. Explain virtual memory. Discuss how paging helps in implementing virtual memory.

29. Distinguish between RISC and CISC.

30. Explain in detail about the strobe control method of asynchronous data transfer and its disadvantages.

31. Explain instruction pipeline in detail.

(5 × 8 = 40 marks)

D 92389 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE (SPECIAL) EXAMINATION NOVEMBER 2020

(CUCBCSS—UG)

Computer Science

BCS 5B 10—PRINCIPLES OF SOFTWARE ENGINEERING

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Define software engineering.
2. What is DSDM ?
3. Who is called as the stakeholder ?
4. What is meant by error ?
5. What is UML stand for ?
6. Define abstraction.
7. What is the goal of concurrency control ?
8. What is DFD ?
9. Define software testing.
10. What is software maintenance ?

(10 × 1 = 10 marks)

Section B

Answer at least **four** *questions.*
Each question carries 4 *marks.*
All questions can be attended.
Overall Ceiling 16.

11. What is Extreme Programming ?
12. Write a note on requirement elicitation.
13. Explain coupling and cohesion.

Turn over

14. Explain about type checking.

15. Differentiate verification and validation.

(4 × 4 = 16 marks)

Section C

Answer at least **four** *questions.*
Each question carries 7 *marks.*
All questions can be attended.
Overall Ceiling 28.

16. Explain spiral model.

17. What are the characteristics of agility ?

18. Write a note on use cases.

19. What are the object oriented design concepts ?

20. Define Refactoring and Aspect.

21. What is Coding ? Explain about coding standards.

22. Explain McCall's Quality Factors.

23. Explain reverse engineering.

(4 × 7 = 28 marks)

Section D

Answer any **two** *questions.*
Each question carries 13 *marks.*

24. What is software life cycle ? Discuss the waterfall model with diagram.

25. Write a note on requirement analysis.

26. Write a note on :

    (a) Interaction diagram.

    (b) State chart diagram.

    (c) Activity diagram.

27. Write a note on structured coding techniques.

28. Define system testing. Explain different types of system testing in detail.

(2 × 13 = 26 marks)

D 92388 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. (CUCBCSS—UG) DEGREE [SPECIAL] EXAMINATION, NOVEMBER 2020

Computer Science

BCS 5B 09—WEB PROGRAMMING USING PHP

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Which tag is used to add columns in the tables in HTML ?
2. Define the concept CSS.
3. What is an identifier in PHP ?
4. Which function is used to create a cookie in PHP ?
5. What is function in PHP ?
6. What is JavaScript code ?
7. Which function is used to check the path of PHP.INI file ?
8. Write the name of four Databases.
9. Mention the role of foreach ().
10. What is Open Source Language ?

(10 × 1 = 10 marks)

Part B

Answer at least **four** *questions.*
Each question carries 4 *marks.*
All question can be attended.
Overall Ceiling 16.

11. Differentiate between colspan and rowspan in HTML5.
12. Define GET and POST methods.
13. State the use of $ and "$$" signs in PHP.

Turn over

14. Write a program using foreach loop.

15. What do you mean by WAMP, LAMP and XAMPP ?

(4 × 4 = 16 marks)

Part C

Answer at least **four** *questions.*
Each question carries 7 *marks.*
All question can be attended.
Overall Ceiling 28.

16. Create a Web page using GUI components.

17. Differentiate between Session and Cookies.

18. What do you mean by CSS ? How many types of CSS in HTML5 ? Explain with example.

19. Explain in detail about various Integrity Constraints.

20. Explain the concept of overriding in PHP detail.

21. What is the difference between row and field ?

22. Explain, how you will Delete row into table with example ?

23. Explain Inserting and Retrieving the query result operations.

(4 × 7 = 28 marks)

Part D

Answer any **two** *questions.*
Each question carries 13 *marks.*

24. Write short note on following in HTML.
    (i) Hyperlinks
    (ii) Working of CSS
    (iii) Basic HTML Elements
    (iv) Formatting Text
    (v) Frames

25. Explain AJAX and its advantages. Discuss in detail the Implementation of AJAX in PHP with relevant examples.

26. Explain any five data types used in PHP.

27. Explain Built in objects in JavaScript.

28. Write a program to connect PHP with PostgreSQL.

(2 ×13 = 26 marks)

D 92387 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. (CUCBCSS—UG) DEGREE [SPECIAL] EXAMINATION, NOVEMBER 2020

Computer Science

BCS 5B 08—JAVA PROGRAMMING

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is data abstraction ?
2. Write the definition of an object.
3. What is bytecode ?
4. What is the use of this keyword ?
5. Define *process.*
6. What is *exception* ?
7. Define an *applet.*
8. Write on GUI.
9. What is an event ?
10. What is the use of import statement ?

(10 × 1 = 10 marks)

Section B

Answer at least **four** *questions.*
Each question carries 4 *marks.*
All questions can be attended.
Overall Ceiling 16.

11. Compare procedure-oriented and object-oriented programming.
12. Write on literals in Java.
13. Explain interface in Java.
14. What are the types of applets ?
15. Write on AWT packages.

(4 × 4 = 16 marks)

Turn over

Section C

Answer at least **four** *questions.*
Each question carries 7 marks.
All questions can be attended.
Overall Ceiling 28.

16. Explain different types of polymorphism.
17. Explain switch statement with the help of an example.
18. Write a java program to explain the structure of for loop.
19. Write a program that explains method overloading.
20. Explain how to create a thread by extending thread class.
21. Write on different types of JDBC drivers.
22. Write on the containers in Java AWT.
23. Explain any 5 event listener interfaces.

(4 × 7 = 28 marks)

Section D

Answer any **two** *questions.*
Each question carries 13 marks.

24. Explain any five features of object-oriented programming.
25. Explain static, final and super keywords with the help of examples.
26. Explain different types of exception handling techniques.
27. Explain applet development life cycle with examples.
28. Explain the steps involved in a JDBC connection in Java.

(2 × 13 = 26 marks)

D 92386 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. (CUCBCSS—UG) DEGREE [SPECIAL] EXAMINATION, NOVEMBER 2020

Computer Science

BCS 5B 07—COMPUTER ORGANIZATION AND ARCHITECTURE

(2017 Admissions)

Time : Three Hours Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Write the truth table of XOR gate.
2. Define half adder
3. Define memory access time.
4. Define S-R latch.
5. Define PC.
6. How many flip-flops are required to construct a decade counter ?
7. Explain the term DMA.
8. Define D-flip flop.
9. Define Encoder.
10. Draw the logic symbol and truth table of NOR gate.

(10 × 1 = 10 marks)

Section B

Answer at least **four** *questions.*
Each question carries 4 *marks.*
All questions can be attended.
Overall Ceiling 16.

11. Explain the steps in executing a program.
12. Explain full adder.
13. Explain about multiplexer.
14. Write a note about MAR and MDR.
15. Write a note about virtual memory.

(4 × 4 = 16 marks)

Turn over

Section C

Answer at least **four** *questions.*
Each question carries 7 *marks.*
All questions can be attended.
Overall Ceiling 28.

16. Explain about J-K flip flop with diagram.
17. Explain about shift registers.
18. Explain about two address instructions and one address instruction with example.
19. Explain about microprogrammed control unit.
20. Explain about DMA controller.
21. Explain about synchronous transfer mode.
22. Write a note about data transfer and data manipulation instructions.
23. Explain about decoder with example.

(4 × 7 = 28 marks)

Section D

Answer any **two** *questions.*
Each question carries 13 *marks.*

24. Explain about different addressing mode techniques with example.
25. Define cache memory. Explain different cache memory mapping techniques.
26. Explain about mode N counter and ring counter with diagram.
27. Explain full subtractor, Ripple and carry adder.
28. i) Explain about instruction fetch cycle. (5 marks)
    ii) Explain about different computer registers. (5 marks)

[2 × 13 = 26 marks]

D 92384 **(Pages : 3)** **Name**.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE [SPECIAL] EXAMINATION NOVEMBER 2020

(CUCBCSS—UG)

Computer Science

BCS 5B 10—WEB PROGRAMMING USING PHP

(2014 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. W3C means ————————.
2. External Style Sheets can be saved as file using ———————— file extension.
3. ———————— tag is used to display picture in a web page.
4. ———————— are block of Java Script code that perform a specific task and return a value.
5. Java Script code is embedded between the———————— HTML tag.
6. PHP configuration settings are maintained in ———————— file.
7. ———————— MySQL built-in function is used to make a persistent connection to the database, which means an SQL l ink that do not close when the execution of your script ends.
8. What will be the output of the following PHP code ?

   ```
   <?php
   $fruits = array ("apple", "orange", array ("pear", "mango"), "banana") :
   echo (count($fruits, 1) ;
   ?>
   ```

9. ———————— PHP built-in function can be used to move the pointer to the previous array position.
10. WAMP stands for ————————.

(10 × l = 10 marks)

Turn over

Part B

Answer **all** *questions.*
Each question carries 2 *marks.*

11. What is CSS ? Explain its purpose.
12. Differentiate between *write* and *writeln* methods in JavaScript.
13. Distinguish between final class and final method in PHP.
14. Explain how cookies are implemented in PHP ?
15. Explain the differences between *mysql_fetch_array() and mysql_fetch_row()*.

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 *marks.*

16. Write down the HTML code to change the colour of the background of a text
17. Explain any four HTML tags.
18. Write a Java Script to add a mouse event to the HTML file.
19. Explain the different methods for handling arrays in Java Script.
20. Explain any two string handling functions in PHP.
21. Write a PHP script to accept the name of any state from user and print the company name and all its branches in the state using the following relational tables :

    Company (CNo, CName, Region, State) and Branch(Bcode, Bname, City, CNo,)
22. Illustrate the differences between *strstr()* and *stristr()* methods in PHP with examples.
23. Explain how will you connect MySQL database from PHP script.

(5 × 4 = 20 marks)

Part D

Answer any **five** *questions.*
Each question carries 8 *marks.*

24. (i) Explain the basic structure of HTML.

    (ii) Explain the purpose and structure of <FRAMESET> tag with examples.

25. Describe how do you use Java Script to validate for form validation. Develop a Java Script program that include functions to validate user data.

26. Explain how functions can be written and executed in JavaScript with example.

27. Explain about various string handling functions in PHP.

28. How web pages are formed in PHP using CSS ? Explain it using suitable example.

29. Design a web page that accept user name and password as input and authenticate the same from a given database using PHP.

30. What is MySQL ? Explain the different data types supported by MySQL.

31. Explain the implementation of AJAX in PHP.

(5 × 8 = 40 marks)

D 92382 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE (SPECIAL) EXAMINATION NOVEMBER 2020

(CUCBCSS—UG)

Computer Science

BCS 5B 08—COMPUTER ORGANIZATION AND ARCHITECTURE

(2014 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

Answer **all** *questions.*

Each question carries 1 *mark.*

1. Name the group of bits that define operations such as add, subtract, multiply, shift and complement.
2. How many types of control organization exists ?
3. What are contained in a microprogram ?
4. Name the programs that are used by other routines to accomplish a particular task.
5. Name the memory used to increase the speed of processing of computers.
6. Name the program which is stored in the ROM portion of main memory for booting the computer.
7. Input or Output devices attached to a computer is called ————.
8. Expand ASCII.
9. Name the formal mechanism for controlling cache coherency using snooping techniques.
10. Name the machine model which are well suited for scientific computing involving lots of vector and matrix operations.

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*

Each question carries 2 marks.

11. List any *four* memory reference instructions.
12. Write reverse polish notation of A * B + C * D.

13. Define Bootstrap loader.

14. Define CISC.

15. What are the possible modes of data transfer to and from peripherals ?

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 *marks.*

16. Explain an interrupt cycle.

17. List the registers of a basic computer.

18. Write short notes on Microinstruction format.

19. Differentiate data input and data output commands.

20. Briefly explain Flash memory.

21. Differentiate Address space and Memory space.

22. Explain the different states in MESI protocol.

23. Briefly explain Strobe control.

(5 × 4 = 20 marks)

Part D

Answer any **five** *questions.*
Each question carries 8 *marks.*

24. Write short notes on stored program organization.

25. Explain the design of basic computer.

26. What are the different computer instructions ? Explain.

27. Explain destination initiated transfer using handshaking with diagram.

28. Write short notes on memory hierarchy.

29. Explain the organization of cache memory.

30. What are the advantages and disadvantages of pipelining ?

31. Define vector processors? Explain vector processing in detail.

(5 × 8 = 40 marks)