

Enrollment No.

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
INTERNET OF THINGS

[Time : 2:30 Hours]

[Max. Marks : 50]

- i) Attempt all questions as per given instructions.
- ii) Marks are indicated against each section.
- iii) Assume missing data if any.

Ques.1 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) Explain Smart Firewall Device.
- (b) What is sensor and explain any of the three Sensors?
- (c) Differentiate between AI and IoT.

Ques.2 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) What do you mean by things in Iot.
- (b) Explain any two Iot devices.
- (c) What do you understand by REST?

Ques.3 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) What are the differences between Sensor and Actuator?
- (b) Differentiate between Breadboard and PCB.
- (c) Define MQTT.

Ques.4 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) What do you mean by data acquisition?
- (b) Explain about LED and also describe what the reason behind different color of LED.
- (c) Describe the history of Iot.

Ques.5 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) What are the advantage and disadvantage of IoT.
- (b) Why do iot systems have to be self-adapting and self-configuring?
- (c) Define the terms:
 - (a) Bread board
 - (b) Register

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
COMPUTER PROGRAMMING USING PYTHON

[Time : 2:30 Hours]

[Max. Marks : 50]

i. Attempt all questions as per given instructions.		
ii. Marks are indicated against each section.		
iii. Assume missing data if any.		
Ques.1	Answer <i>ANY TWO</i> of the following questions	
(a)	What is Python? Describe its features and applications?	(5X 2=10)
(b)	Differentiate between lists and tuples in Python?	
(c)	What Python uses, static typing or dynamic typing? Justify your answer with an example.	
Ques.2	Answer <i>ANY TWO</i> of the following questions	
(a)	Explain the history of Python evolution	(5X 2=10)
(b)	What are keywords in Python? Explain the rules for writing identifiers?	
(c)	Explain all assignment operators in Python with example.	
Ques.3	Answer <i>ANY TWO</i> of the following questions	
(a)	Write in detail about the data types in Python?	(5X 2=10)
(b)	Write logical operators in detail?	
(c)	Write a short note on Python sets?	
Ques.4	Answer <i>ANY TWO</i> of the following questions	
(a)	Write about Exception Handling in Python programming?	(5X 2=10)
(b)	What are the two ways of importing a module? Explain	
(c)	Write a Python program to find the given year is leap year or not.	
Ques.5	Answer <i>ANY TWO</i> of the following questions	
(a)	What are the different loop control statements available in python? Explain with suitable examples.	(5X 2=10)
(b)	Write in brief about Dictionary in python .	
(c)	Give a not on each of the below Python language constructs: (i) quotes (single, double and triple) (ii) multiline statements (iii) indentation	

Printing Pages : 1

Paper Code – DCS–504

(C) (SVSU): 2025-2026/R

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
COMPUTER ARCHITECTURE AND HARDWARE MAINTENANCE

[Time : 2:30 Hours]

[Max. Marks : 50]

i) Attempt all questions as per given instructions.		
ii) Marks are indicated against each section.		
iii) Assume missing data if any.		
Ques.1	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	Explain about RAM chip.	
(b)	Write short note on Read and Write operation.	
(c)	What is the BIOS? And its function.	
Ques.2	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	Explain the Booth algorithm With the help of Flow chart.	
(b)	Describe the type of mode used to transfer the data.	
(c)	Explain architecture of the 8085 Microprocessor.	
Ques.3	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is the Auxiliary Memory?	
(b)	Solve the expression $X = (A+B)*(C+D)$ using 3 address	
(c)	Define one address with the help of example.	
Ques.4	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	Explain how to access I/O devices in a system	
(b)	Explain about the arithmetic micro operations.	
(c)	What is pipeline?	
Ques.5	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is the Strobe signal?	
(b)	Define addressing modes.	
(c)	Explain the pin diagram of 8085 microprocessor.	

Printing Pages : 1

Paper Code – DCS–501

(B) (SVSU): 2025-2026/R

Enrollment No.

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
SOFTWARE ENGINEERING

[Time : 2:30 Hours]

[Max. Marks : 50]

i. Attempt all questions as per given instructions.		
ii. Marks are indicated against each section.		
iii. Assume missing data if any.		
Ques.1	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is the COCOMO model?	
(b)	Explain water fall model with advantage and disadvantage?	
(c)	Explain 0 level and 1 level of DFD?	
Ques.2	Answer <i>ANY TWO</i> of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What is the prototype model explain advantage and disadvantage?	
(b)	Explain integration testing?	
(c)	What is the difference between function and procedural testing?	
Ques.3	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is the cohesion and coupling ?	
(b)	What is the black box testing?	
(c)	What is the regression testing?	
Ques.4	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is the white box testing?	
(b)	What do you mean by SRS?	
(c)	What is the spiral model?	
Ques.5	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is the difference between software and hardware?	
(b)	What do you mean by maintenance management?	
(c)	What is the SDLC ?	

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Paper Code – DCS--502

(B) (SVSU): 2025-2026/R

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
WEB DEVELOPMENT USING PHP

[Time : 2:30 Hours]

[Max. Marks : 50]

i. Attempt all questions as per given instructions. दिए गए निर्देशों के अनुसार सभी प्रश्नों का प्रयास करें।		
ii. Marks are indicated against each section. प्रत्येक खंड के खिलाफ निशान दर्शाए गए हैं।		
iii. Assume missing data if any. अनुपस्थित डेटा मान लें यदि कोई हो।		
Ques.1	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What are constants in PHP? How are they defined?	
(b)	Explain type casting and type juggling in PHP.	
(c)	What are operators in PHP? Explain different types of operators with examples.	
Ques.2	Answer ANY TWO of the following questions. निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What is the difference between == and === in PHP?	
(b)	Explain nested loops in PHP with an example.	
(c)	How does the foreach loop work with arrays in PHP?	
Ques.3	Answer ANY TWO of the following questions. निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	Explain how to concatenate strings and variables in PHP.	
(b)	What is the difference between explode () and implode () functions?	
(c)	What is CRUD in PHP and MySQL? Write short notes on Create, Read, Update, and Delete operations.	
Ques.4	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	Write a PHP script to calculate the sum of two numbers using HTML form input.	
(b)	How can you validate form data in PHP before submitting?	
(c)	How do you fetch and display database records using PHP?	
Ques.5	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	How do you connect PHP with MySQL using mysqli_connect () ?	
(b)	Write a PHP script to insert and retrieve data from a MySQL database.	
(c)	Explain prepared statements and their importance in preventing SQL injection.	

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
INTERNET OF THINGS

[Time : 2:30 Hours]

[Max. Marks : 50]

i) Attempt all questions as per given instructions.

ii) Marks are indicated against each section.

iii) Assume missing data if any.

Ques.1 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) Describe the IoT protocol in details
- (b) Explain iot with real-life example.
- (c) Briefly explain about components in the internet of thing.

Ques.2 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) What are the differences between Sensor and Actuator?
- (b) Explain the various emerging IoT applications.
- (c) What do you understand by M2M?

Ques.3 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) Write a short note on Arduino and its component explain with the help of diagram.
- (b) Define the terms:
 (a) Bread board (b) Register
- (c) Briefly explain about these given terms.
 (a) NFV (B) SDN

Ques.4 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) What are the goals of SDN?
- (b) Differentiate between Breadboard and PCB.
- (c) What is the Breadboard?

Ques.5 Answer *ANY TWO* of the following questions (5X 2=10)

- (a) Describe the physical physical design of IoT.
- (b) Write down program to print a message 'arduino' 15 times.
- (c) What is the history of IoT Explain in Briefly?

Printing Pages : 1

Paper Code – DCS--504

(B) (SVSU): 2025-2026/R

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
COMPUTER ARCHITECTURE AND HARDWARE MAINTENANCE

[Time : 2:30 Hours]

[Max. Marks : 50]

i) Attempt all questions as per given instructions.		
ii) Marks are indicated against each section.		
iii) Assume missing data if any.		
Ques.1	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is virtual memory?	
(b)	What are the handshaking signals?	
(c)	Explain Main Memory and its types.	
Ques.2	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	How BCD addition is to be performed. Explain With an example.	
(b)	Explain any 3 number systems with an example each.	
(c)	What is an instruction format? Explain different types of instructions.	
Ques.3	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	Explain the terms:- (a) RAM chip (b) ROM chip	
(b)	Write a Short note on Motherboard and Explain with the help of diagram.	
(c)	Define bus system?	
Ques.4	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is the pipeline?	
(b)	Differentiate between RISC and CISC.	
(c)	Write the Video Adapter & display controllers.	
Ques.5	Answer <i>ANY TWO</i> of the following questions	(5X 2=10)
(a)	What is the cache memory? Explain different types of mapping from main memory to cache memory.	
(b)	What is peripheral device? Explain the term of scanner.	
(c)	What is the different type of auxiliary memory? Explain with suitable example.	

Printing Pages : 1

Paper Code – DCS–503

(C) (SVSU): 2025-2026/R

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
COMPUTER PROGRAMMING USING PYTHON

[Time : 2:30 Hours]

[Max. Marks : 50]

i. Attempt all questions as per given instructions.		
ii. Marks are indicated against each section.		
iii. Assume missing data if any.		
Ques.1	Answer ANY TWO of the following questions	(5X 2=10)
(a)	Differentiate between lists and tuple in Python?	
(b)	What are the uses of Python? What are Python's technical strengths?	
(c)	What are membership operators? Give examples each membership operators.	
Ques.2	Answer ANY TWO of the following questions	(5X 2=10)
(a)	What are relational operators used in Python? Explain.	
(b)	Explain about string formatting operator with example.	
(c)	Explain about built-in functions of tuple.	
Ques.3	Answer ANY TWO of the following questions	(5X 2=10)
(a)	Briefly discuss about running Python scripts.	
(b)	Explain dictionaries and write operations on dictionaries with example?	
(c)	How to create, raise and handle user defined exceptions in Python.	
Ques.4	Answer ANY TWO of the following questions	(5X 2=10)
(a)	What are different applications of Python? Give examples.	
(b)	Give a short Python Inheritance.	
(c)	Explain variable in python with declaration.	
Ques.5	Answer ANY TWO of the following questions	(5X 2=10)
(a)	Explain break and continue statement with example.	
(b)	Explain Recursion with example.	
(c)	Write in detail about the data types in Python?	

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Paper Code – DCS--502

(A) (SVSU): 2025-2026/R

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
WEB DEVELOPMENT USING PHP

[Time : 2:30 Hours]

[Max. Marks : 50]

i. Attempt all questions as per given instructions. दिए गए निर्देशों के अनुसार सभी प्रश्नों का प्रयास करें।		
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iii. Assume missing data if any. अनुपस्थित डेटा मान लें यदि कोई हो।		
Ques.1	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What is PHP? Describe its main features and uses in web development.	
(b)	Explain the architecture of PHP and how it interacts with a web server.	
(c)	Describe the difference between client-side and server-side scripting.	
Ques.2	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	Explain the use of conditional statements (if, else, elseif, switch) in PHP.	
(b)	Write a PHP script to find the largest of three numbers using conditional statements.	
(c)	What are loops in PHP? Describe different loop structures with examples.	
Ques.3	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What is an array in PHP? Explain indexed, associative, and multidimensional arrays with examples.	
(b)	Write a PHP script to store and display student marks using an associative array.	
(c)	Explain array functions in PHP like array_push(), array_pop(), and array_merge().	
Ques.4	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What is a function in PHP? Explain syntax and advantages.	
(b)	Explain the difference between built-in and user-defined functions.	
(c)	What are variable scope and static variables in PHP?	
Ques.5	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	Explain file handling in PHP. Write code to read and write a text file.	
(b)	What are cookies in PHP? How are they created, accessed, and deleted?	
(c)	What are sessions in PHP? Explain how they differ from cookies.	

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Paper Code – DCS--501

(C) (SVSU): 2025-2026/R

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Diploma in Engineering (CSE)
III YEAR, V SEMESTER EXAMINATION
SOFTWARE ENGINEERING

[Time : 2:30 Hours]

[Max. Marks : 50]

i) Attempt all questions as per given instructions. दिए गए निर्देशों के अनुसार सभी प्रश्नों का प्रयास करें।		
ii) Marks are indicated against each section. प्रत्येक खंड के खिलाफ निशान दर्शाए गए हैं।		
iii) Assume missing data if any. अनुपस्थित डेटा मान लें यदि कोई हो।		
Ques.1	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What is the COCOMO model?	
(b)	Explain water fall model with advantage and disadvantage?	
(c)	What is the spiral model?	
Ques.2	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What do you mean by a open system?	
(b)	What is the Alfa testing?	
(c)	What is the smoke testing?	
Ques.3	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What do you mean by a module in software development ?	
(b)	Explain the role of software management team?	
(c)	Write down the step to develop a hospital management system?	
Ques.4	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What is the prototype model explain advantage and disadvantage?	
(b)	Explain integration testing?	
(c)	What is the difference between function and procedural testing?	
Ques.5	Answer ANY TWO of the following questions निम्नलिखित प्रश्नों में से किसी दो का उत्तर दें	(5X 2=10)
(a)	What is the Risk management system?	
(b)	Which model should be use yon avoid the risk management?	
(c)	Explain the terminology of software engineering?	
