

SAVITRIBAI PHULE PUNE UNIVERSITY

Booklet of Practical Skeleton Papers

For

T.Y.B.B.A (Computer Application)

Choice Based Credit System (CBCS)

IOT Practical Examination

(From June 2022)

T.Y.B.B.A (Computer Application)

PREAMBLE

The prime responsibility of all the teachers of affiliated colleges of Savitribai Phule Pune University is to make our students knowledgeable and skilful in all respect. Keeping this view in mind, the board of studies for Electronic Science has prepared the syllabus for practical Course with the help of senior teaching faculty and Industry experts. As per the guidance of Board of studies, the teachers in the affiliated colleges have to implement this practical course. The course contains Two Basic groups A and B that are directly related to the theory courses in Semester I. The experiments from Group A & B are prepared for developing skills. To use basic concepts for building various applications of embedded electronics. To build experimental setup and test the circuits. To develop skills of analyzing test results of given experiments. Developing Trained Personals for educating and training for upcoming graduates in wireless communication. Implement basic IoT applications on embedded platform.

Along with these experiments students are motivated to work in their topics of interest through students activities in the second term. The students' activity contains Continuation of T. Y. activity, Electronics project Based on the Theory Courses learnt, Documentation type experiments, Presentation/Seminar on Electronics /advanced topic/research topics. Thus, proper implementation of this course will definitely prepare B.B.A. (Computer Application) students to fulfil the requirements of the time.

Evaluation of the student's practical skill-set is one more very important duty of all teachers in the affiliated colleges. This document is prepared to carry out the evaluation of the students practically. It includes the skeleton for conducting practical examination. The centre, where the examination is being conducted should strictly follow the guidelines given in this document. Examination slips for different experiments are designed systematically; judge the students keeping in mind the objectives mentioned in the syllabus. Marking scheme of every slip is thoughtfully prepared to ensure that the students will get marks for their understanding and not only for memorizing the procedures. We are sure that this skeleton will enable smooth and successful conduct of Practical Examination at different centres affiliated to Savitribai Phule Pune University.

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Sr. No	Title of the Experiment	
	GROUP A	
A1	Demonstration of LED Blink	
A2	Demonstration of Temperature sensor	
A3	Demonstration of Traffic Signal	
A5	Demonstration of LED Fade in and fade out	
A5	Demonstration of reading analogy Voltage	
A6	Demonstration of Servo Motor	
B1	Demonstration of Stepper motor	
B2	Demonstration of Hello message on LCD Display	
B3	Demonstration of IR Sensor	
B4	Demonstration of interfacing Switch and buzzer	
B5	Demonstration of interfacing Switch and LED	
B7	Demonstration of relay Controller	
B8	Demonstration of Arduino to PC using serial communication	

Exam. Seat No. _____

Time Duration: 3 Hours

SAVITRIBAI PHULE PUNE UNIVERSITY

T. Y. B. B.A. (Computer Application) IOT Practical Examination

Max. Marks: 35

Distribution of Marks

Flowchart/ Algorithm	Program	Execution	Result & Conclusion	Experiment Oral	Total
05	10	10	05	05	35

Instructions to students:

- 1. Read slip carefully and write the program in assembly language.*
- 2. Do not switch ON Computer without prior permission of examiner.*
- 3. Show the result to the examiner.*
- 4. Use of calculator is not allowed.*
- 5. The Arduino manual will be provided on demand.*

A1: Demonstration of LED Blink Programming.

1. Write an algorithm / flowchart for Demonstration of LED Blink. Get it checked from the examiner.
2. Demonstration of LED Blink.
3. Execute the program and show the Result to examiner.
4. Modify the program and verify the Result.
5. Write difference between Microprocessor and Microcontroller.
6. What is the use of IOT.

Exam. Seat No. _____

Time Duration: 3 Hours

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A2: Demonstration of Temperature sensor Programming.

1. Write an algorithm / flowchart for Demonstration of Temperature sensor. Get it checked from the examiner.
2. Demonstration of Temperature sensor
3. Execute the program and show the Result to examiner.
4. Modify the program and verify the Result.
5. Write difference between Sensor & Transducers.
6. What is the application of IOT.

Exam. Seat No. _____

Time Duration: 3 Hours

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A3: Demonstration of LED Fade in and Fade out.

1. Write an algorithm / flowchart for Demonstration of LED Fade in and Fade out. Get it checked from the examiner.
2. Demonstration of LED Fade in and Fade out Execute the program and show the Result to examiner.
3. Modify the program and verify the Result.
4. Write difference between LED & LCD.
5. What is the use of IOT.

Exam. Seat No. _____

Time Duration: 3 Hours

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A4: Demonstration of Stepper motor.

1. Write an algorithm / flowchart for Demonstration of Stepper motor. Get it checked from the examiner.
2. Demonstration of Stepper motor
3. Execute the program and show the Result to examiner.
4. Modify the program and verify the Result.
5. Write difference between Stepper motor & Servo Motor.
6. What is the use of Steeper motor.

Exam. Seat No. _____

Time Duration: 3 Hours

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A5: Demonstration of Hello message on LCD Display Programming.

1. Write an algorithm / flowchart for Demonstration of Hello message on LCD Display. Get it checked from the examiner.
2. Demonstration of Hello message on LCD Display
3. Execute the program and show the Result to examiner.
4. Modify the program and verify the Result.
5. Write difference between Microprocessor and Microcontroller.
6. What is the use of LCD.

Exam. Seat No. _____

Time Duration: 3 Hours

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5. *The Arduino manual will be provided on demand.*

A6: Demonstration of interfacing Switch and buzzer Programming.

1. Write an algorithm / flowchart for Demonstration of interfacing Switch and buzzer. Get it checked from the examiner.
2. Demonstration of interfacing Switch and buzzer
3. Execute the program and show the Result to examiner.
4. Modify the program and verify the Result.
5. Write difference between Microprocessor and Microcontroller.
6. What is the use of IOT.

Exam. Seat No. _____

Time Duration: 3 Hours

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5. *The Arduino manual will be provided on demand.*

A7: Demonstration of interfacing Switch and LED Programming.

1. Write an algorithm / flowchart for Demonstration of interfacing Switch and LED. Get it checked from the examiner.
2. Demonstration of interfacing Switch and LED
3. Execute the program and show the Result to examiner.
4. Modify the program and verify the Result.
5. Write difference between Microprocessor and Microcontroller.
6. What is the use of IOT.

Exam. Seat No. _____

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- 3. Show the result to the examiner.*
- 4. Use of calculator is not allowed.*
- 5. The Arduino manual will be provided on demand.*

A8: Demonstration of Arduino to PC using serial communication Programming.

1. Write an algorithm / flowchart for Demonstration of Arduino to PC using serial communication
2. Get it checked from the examiner.
3. Demonstration of Arduino to PC using serial communication
4. Execute the program and show the Result to examiner.
5. Modify the program and verify the Result.
6. Write difference between Microprocessor and Microcontroller.
7. What is the Baud rate & Bit Rate.

Exam. Seat No. _____

Time Duration: 3 Hours

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3. *Show the result to the examiner.*
4. *Use of calculator is not allowed.*
5. *The Arduino manual will be provided on demand.*

A9: Demonstration of LDR Base light Controller system Programming.

1. Write an algorithm / flowchart for Demonstration of LDR Base light Controller system.
Get it checked from the examiner.
2. Demonstration of LDR Base light Controller system
3. Execute the program and show the Result to examiner.
4. Modify the program and verify the Result.
5. Write difference between Microprocessor and Microcontroller.
6. What is the use of LDR.

