Savitribai Phule Pune University

T.Y. B.C.A (Science)

Semester – VI

C.B.C.S 2019 Pattern

BCA367

DSE V Lab

(Programming in GO and IoT)

Savitribai Phule Pune University

T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to accept user choice and print answers using arithmetic operators. [20 Marks]

OR

B) Write a program in GO language to accept n student details like roll_no, stud_name, mark1,mark2, mark3. Calculate the total and average of marks using structure. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)
b. WAP in python/C++ language to blink LED.
c. Write down the observations on Input and Output
d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to print Fibonacci series of n terms. [20 Marks]

OR

B) Write a program in GO language to print file information. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)
b. WAP in python/C++ language to turn ON/OFF buzzer.
c. Write down the observations on Input and Output
d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in the GO language using function to check whether accepts number is palindrome or not. [20 Marks]

OR

B) Write a Program in GO language to accept n records of employee information (eno,ename,salary) and display record of employees having maximum salary. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to blink LED.

c. Write down the observations on Input and Output

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Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to print a recursive sum of digits of a given number. [20 Marks]

OR

B) Write a program in GO language to sort array elements in ascending order. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)
b. WAP in python/C++ language to toggle two LED's.
c. Write down the observations on Input and Output
d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language program to create Text file [20 Marks]

OR

B) Write a program in GO language to accept n records of employee information (eno,ename,salary) and display records of employees having minimum salary. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to blink LED.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to accept two matrices and display its multiplication [20 Marks]

OR

B) Write a program in GO language to copy all elements of one array into another using a method. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)
b. WAP in python/C++ language to toggle two LED's.
c. Write down the observations on Input and Output
d. Write down the Result and Conclusion

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Q4. Internal Assessment [15 Marks]

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to accept one matrix and display its transpose. [20 Marks]

OR

B) Write a program in GO language to create structure student. Writea method show() whose receiver is a pointer of struct student. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to turn ON/OFF buzzer.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to accept the book details such as BookID, Title, Author, Price. Read and display the details of 'n' number of books [20 Marks]

OR

B) Write a program in GO language to create an interface shape that includes area and perimeter. Implements these methods in circle and rectangle type. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to blink LED.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language using a function to check whether the accepted number is palindrome or not. [20 Marks]

OR

B) Write a program in GO language to create an interface shape that includes area and volume. Implements these methods in square and rectangle type. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to blink LED.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to create an interface and display its values with the help of type assertion. [20 Marks]

OR

B) Write a program in GO language to read and write Fibonacci series to the using channel. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to turn ON/OFF buzzer.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

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Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to check whether the accepted number is two digit or not. [20 Marks]

OR

B) Write a program in GO language to create a buffered channel, store few values in it and find channel capacity and length. Read values from channel and find modified length of a channel [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to turn ON/OFF buzzer.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to swap two numbers using call by reference concept [20 Marks]

OR

B) Write a program in GO language that creates a slice of integers, checks numbers from the slice are even or odd and further sent to respective go routines through channel and display values received by goroutines. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to toggle two LED's.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

Savitribai Phule Pune University

T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to print sum of all even and odd numbers separately between 1 to 100. [20 Marks]

OR

B) Write a function in GO language to find the square of a number and write a benchmark for it. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to toggle two LED's.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to demonstrate working of slices (like append, remove, copy etc.) [20 Marks]

OR

B) Write a program in GO language using go routine and channel that will print the sum of the squares and cubes of the individual digits of a number. Example if number is 123 then
squares = (1 * 1) + (2 * 2) + (3 * 3)
cubes = (1 * 1 * 1) + (2 * 2 * 2) + (3 * 3 * 3). [20 Marks]

Q2. [10 Marks]

a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera.
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to turn ON/OFF buzzer.

c. Write down the observations on Input and Output

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Q3. Viva [5 Marks]

Q4. Internal Assessment [15 Marks]

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to demonstrate function return multiple values. [20 Marks]

OR

B) Write a program in GO language to read XML file into structure and display structure [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)
b. WAP in python/C++ language to toggle two LED's.
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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to create a user defined package to find out the area of a rectangle. [20 Marks]

OR

B) Write a program in GO language that prints out the numbers from 0 to 10, waiting between 0 and 250 ms after each one using the delay function. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to blink LED.

c. Write down the observations on Input and Output

d. Write down the Result and Conclusion

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to illustrate the concept of returning multiple values from a function. (Add, Subtract, Multiply, Divide) [20 Marks]

OR

B) Write a program in GO language to add or append content at the end of a text file [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)
b. WAP in python/C++ language to toggle two LED's.
c. Write down the observations on Input and Output
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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to print a multiplication table of number using function. [20 Marks]

OR

B) Write a program in GO language using a user defined package calculator that performs one calculator operation as per the user's choice. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)
b. WAP in python/C++ language to turn ON/OFF buzzer.
c. Write down the observations on Input and Output
d. Write down the Result and Conclusion

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Q4. Internal Assessment [15 Marks]

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T.Y. B.C.A. (Science) (Semester-VI) Practical Examination

BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in GO language to illustrate the function returning multiple values(add, subtract). [20 Marks]

OR

B) Write a program in the GO language program to open a file in READ only mode. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to turn ON/OFF buzzer.

c. Write down the observations on Input and Output.

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BCA 367: DSE V Lab (Programming in GO and IoT)

Duration: 3Hrs. **Max Marks: 35+15=50**

Q1. A) Write a program in Go language to add or append content at the end of a text file. [20 Marks]

OR

B) Write a program in Go language how to create a channel and illustrate how to close a channel using for range loop and close function. [20 Marks]

Q2. a. Draw block diagram /pin diagram of Raspberry-Pi/ Beagle board /Arduino Uno board interfacing with IR Sensor/Temperature Sensor/Camera. [10 Marks]
(Internal Examiner assign any one option for board and interface device and respective interface programming option)

b. WAP in python/C++ language to toggle two LED's.

c. Write down the observations on Input and Output.

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Q3. Viva [5 Marks]

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