ASSIGNMENT NUMBER: B2

TITLE Write an application to capture and store the image.

PROBLEM STATEMENT /DEFINITION Understanding and connectivity of Raspberry-Pi /Beagle board with camera. Write an application to capture and store the image.

OBJECTIVE To capture and store image using Raspberry-pi.

S/W PACKAGES AND HARDWARE APPARATUS USED Picamera package Raspberry pi Camera

Aim: Study of Connectivity and configuration of Raspberry-Pi /Beagle board circuit with basic peripherals, LEDS. Understanding GPIO and its use in program.

Pre-requisite:

Basic knowledge of configuration.

Learning Objectives:

 To understand configuration of Raspberry-pi/Beagle board circuit with basic peripherals and its use in the program.

Learning Outcomes:

The students will be able to

 Connectivity of Raspberry-pi and Implement the program

Theory: Pi Camera Module Interface with Raspberry Pi using Python Introduction

Pi Camera module is a camera which can be used to take pictures and high definition video. Raspberry Pi Board has CSI (Camera Serial Interface) interface to which we can attach PiCamera module directly. This Pi Camera module can attach to the Raspberry Pi‟s CSI port using 15-pin ribbon cable.

How to attach Pi Camera to Raspberry Pi?

Connect Pi Camera to CSI interface of Raspberry Pi board as shown below,

Now, we can use Pi Camera for capturing images and videos using Raspberry Pi. Python Program for Image Capture & Store

```
import picamera

from time import sleep

#create object for PiCamera class

camera = picamera.PiCamera()

#set resolution

camera.resolution = (1024, 768)

camera.brightness = 60
```

```
camera.start_preview()
#add text on image
camera.annotate_text = 'Hi Pi User'
sleep(5)
#store image
camera.capture('image1.jpeg')
camera.stop_preview()
```

Conclusion: Hence the experiment was carried out successfully