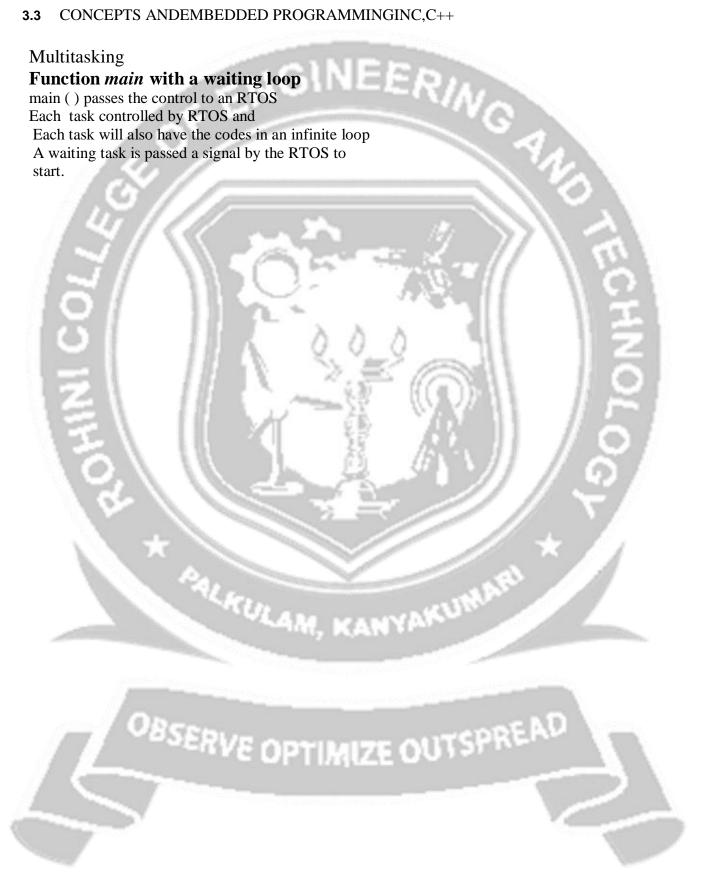
## **UNIT III**

## EMBEDDED FIRMWARE DEVELOPMENT ENVIRONMENT

## CONCEPTS ANDEMBEDDED PROGRAMMINGINC,C++ 3.3



```
Main () calling RTOS
# define false
0#definetrue 1
void main (void){
/* Call RTOS run here
*/Infinite loop in main
() while (1){ rtos.run();
/* Infinite while loops follows in each task. So never there is return from the RTOS. */
Task1
Void task 1(...){
/*Declarations */
While (true){
/*Codes that repeatedly execute*/
/* Codes that execute on an event
*/If (flag1){.;}; flag1 = 0;
/* Codes that execute for message to the kernel
*/message1 ();
/****************
Task 2 ()
void task 2(...){
/*Declarations */
while (true){
/*Codes that repeatedly execute*/
/* Codes that execute on an event
*/if(flag2){.}; ; flag2 = 0;
/* Codes that execute for message to the kernel
*/message2 ();
} }
/****************
                              PTIMIZE OUTSPREAD
TaskN 1()
voidtaskN_1 (....) {
/*Declarations */
While (true){
/*Codes that repeatedly execute*/
/*Codes that execute on an event */
If (flagN_1)\{....;\}; flagN_1 = 0;
/*Codes that execute for message to the kernel*/
```

```
messageN_1 ();
/*****************
Task N
Void task N(.) {
/*Declarations */
While (true){
/*Codes that repeatedly execute*/
/* Codes that execute on an event
*/I f(flag N){.
                 ;}; flag N=0;
/* Codes that execute for message to the kernel
*/message N();
/*******************
2. Polling for events and messages
_A Programming method is to facilitate execution of one of the multiple possible function calls
  and the function executes after polling
Polling example is polling for a screen state (or Window menu ) and for a message from an
Mobile phone
Assume that screen state j is between 0 and K, among 0, 1, 2, ... or K-1 possible
states.(set of menus).
```

An interrupt is triggered from a touch screen GUI and an ISR posts an event-message m=0, 1, 2, ..., or N-1 as per the selected the menu choice 0, 1, 2, ..., N-1 when there are N menu-choices for a mobile phone user to select from a screen instatej.

## Polling for a menu selection from screen state

