BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE AND ENGINEERING

DEPARTMENT OF ENGINEERING AND PHYSICS

PROGRAMME: BACHELOR OF SCIENCE HONOURS DEGREE IN ELECTRONIC ENGINEERING

EEE2111/EEE3104 (1): EMBEDDED COMPUTER SYSTEMS

DURATION: 3h TOTAL MARKS: 100 JUN 2025

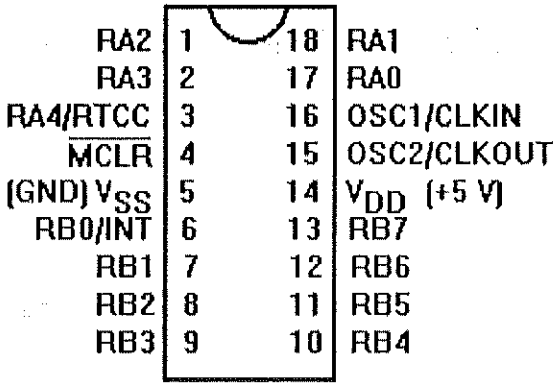
INSTRUCTIONS TO CANDIDATES

1. Answer question one and any other two.
2. Start the answers for each question on a fresh page.

---

1. Design a circuit that flash LEDS on portA and portB of PIC 16F84, that is a flasher that must flash in a continuous cycle. Functional block diagram, flowchart and program code are required. [40]

2. a) Explain the following pin connections for PIC16F84 [30]



3. The two-stage pipeline provides a speed-up by overlapping the fetch and execution activities for each instruction. The clock is divided by four to provide the machine cycles, meaning that the program. Using a machine cycle (clocking) explain two stage pipeline. [30]
4. Draw the memory map for PIC16F84 and explain the functions for each mapping. [30]
5. Using a diagram explain STATUS REGISTER (03H AND 83H). [30 [30]

END OF PAPER