JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

B.Tech-V Semester (CSE/IT)

COURSE CODE (CREDITS): 25B1WCI536 (2) MAX. MARKS: 15

COURSE NAME: IOT ANALYTICS

COURSE INSTRUCTOR: AAYUSH SHARMA MAX. TIME: 1 Hour

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

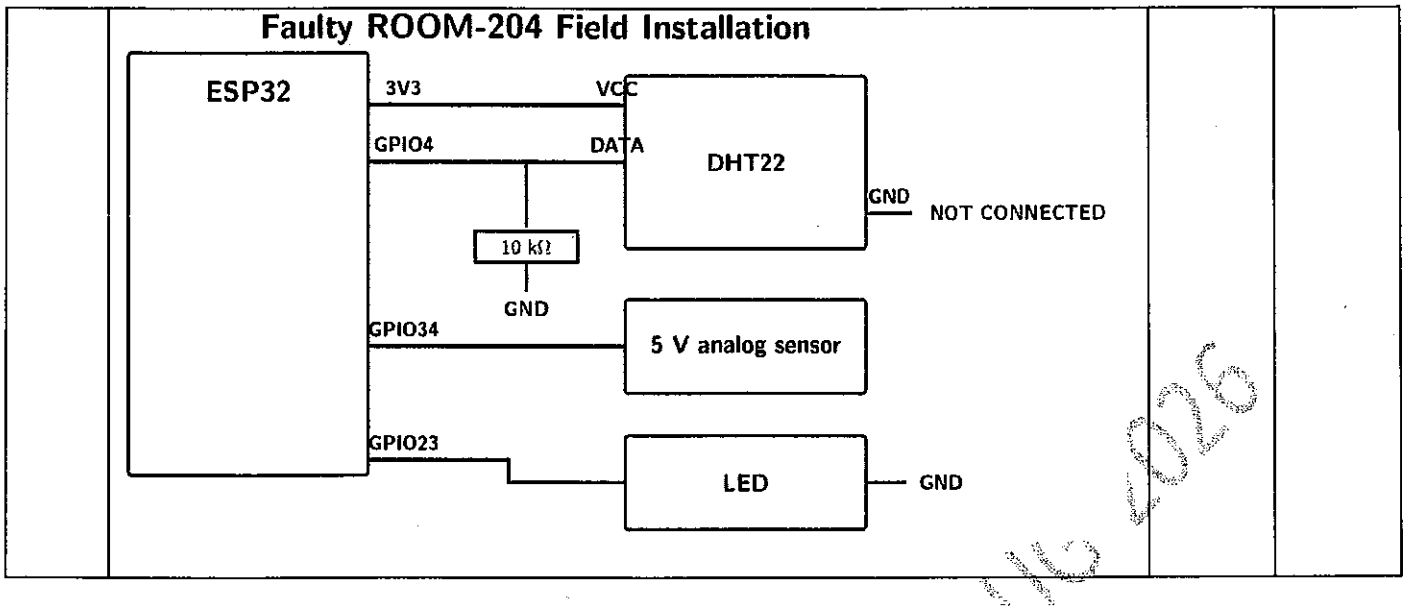
(c) Use of calculator is allowed

ROOM-204: Your team is developing a classroom safety node that measures environmental conditions, gives a local warning, and uploads summaries. The questions follow the system from design to field failure.

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Q.No	Question	CO	Marks
Q1	**Match each item in Column A with its most appropriate role in Column B. Write only A-__, B-__, C-__, D-__, E-__.** **Column A** — **Column B** A. ESP32 deep sleep — 1. Pressed input reads LOW B. Raspberry Pi — 2. Essential action continues during Internet failure C. Arduino Uno A0 — 3. Reduces energy use between wake cycles D. INPUT_PULLUP — 4. Linux gateway, storage or camera processing E. Local safety rule — 5. Built-in 10-bit analog input	[CO1]	[1 x 5]
Q2	In each 60 s cycle, the ESP32 uses 200 mA for 1.5 s with Wi-Fi and 0.02 mA for 58.5 s in deep sleep. Battery capacity is 2400 mAh. A student claims: 'Average current = (200 + 0.02)/2, so the battery lasts about one day.' **(a) Calculate the correct average current.** **(b) Estimate the ideal battery life in days.**	[CO1]	[3+2]
Q3	The following figure contains correct details as decoys and exactly five design errors. Identify all five and write each answer as: Error -> Correction.	[CO1] [CO2]	[1 x 5]

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