



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2015/2016**

COURSE NAME : HYDROLOGY AND WATER
RESOURCES

COURSE CODE : DAB 30403

PROGRAMME CODE : DAB

EXAMINATION DATE : JUNE / JULY 2016

DURATION : 3 HOURS

INSTRUCTION : ANSWER **FIVE (5)** QUESTIONS
ONLY

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

- Q1** (a) Name **Two (2)** types of hydrological data which related to the occurrence of natural water on the earth. (2 marks)
- (b) Explain the process of precipitation formation. (6 marks)
- (c) Refer **Table Q1(c)**, calculate rainfall intensity (mm/hour). (6 marks)
- (d) Refer **Table Q1(d)**, a reservoir has the following inflow and outflow for the first three months of the year. If the storage at the beginning of January is 120 m^3 , determine the storage at the end of March (m^3). (6 marks)
- Q2** (a) List **Two (2)** contributions of Intensity Duration Frequency Study in modelling of catchment area. (2 marks)
- (b) Explain the limitations in using Rational Method for peak runoff calculation. (6 marks)
- (c) Refer **Table Q2(c)**, analyze the Intensity-Duration-Frequency (IDF) curves for 10-year and 5-year frequencies (inch/hour) based on annual maximum rainfall depths data. (12 marks)
- Q3** (a) List **Two (2)** reasons why runoff need to be estimated. (2 marks)
- (b) Clarify **Three (3)** factors influencing the runoff capacity. (6 marks)
- (c) Refer **Table Q3(c)**, estimate the constant rate of withdrawal (m^3/s) from a reservoir in a month of 30 days. (12 marks)