

軟體工程(CS 446102)期中考

- ※ 請務必按題目順序依次作答，可用中、英文來答題(以簡潔的句子回答即可)。
※ 本次考試採 Open Book 方式，但禁止交談討論或交換資料等行為。

Answer each of the following briefly.

1. (10%) Describe the objective and advantage of the evolutionary prototyping for software development?
2. (5%) What is the Boehm's W5HH Principle?
3. (5%) What is the RMMM?
4. (5%) What are the four P's of effective project management?
5. (5%) What are the umbrella activities?
6. (10%) The software requires 38,400 lines of C and 2,600 lines of a 4GL-like specialized language. Estimate the number of function points (FPs) for the software. (reference: C: 128 LOC/FP, 4GL: 20 LOC/FP)
7. (20%) Team A found 342 errors during the software engineering process prior to release. Team B found 184 errors. What additional measures would have to be made for projects A and B to determine which of the teams eliminated errors more efficiently? What metrics would you propose to help make the determination? What historical data might be useful?
8. (10%) Evaluate the following sentences by answering either "True" or "False".
 - (i) Function Point (FP) is a subjective measure of software size.
 - (ii) For a software module, measuring faults per KLOC is an example of direct measurement and measuring the number of faults in that module is indirect measurement.
9. (10%) Zave defines Requirement Engineering as *"the branch of software engineering concerned with the real-world goals for, functions of, and constraints on software systems [and] the relationship of these factors to precise specifications of software behavior, and to their evolution over time and across software families"*. Why is requirement engineering considered to be the most important part of software engineering?
10. (15%) For the following metrics determine they are whether "Process" or "Product" metrics. Why?
 - Rate of programmer errors
 - Number of pending trouble reports
 - Function point
11. (15%) Determine and explain which one of the following sentences is meaningful and unambiguous. Answer (T) if you think that the statement is meaningful and unambiguous or (F) otherwise.
 - The length of program P is 500.
 - It took 2 weeks to develop program P.
 - Program P is more complex than program Q.