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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -II EXAMINATION- April 2018

M.Tech. IInd Semester

COURSE CODE: 11M1WCI432 MAX. MARKS:25

COURSE NAME: Performance Evaluation of Networks

COURSE CREDITS: 3 MAX. TIME: 1.5 Hrs

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

Que-1: ***[5 Marks]*** MBPF Finance Inc. makes loans to qualified buyers of prefabricated garages. It receives about 1000 loan applications per 30-day working month and makes accept/reject decisions based on an extensive review of each application.

Prior to January 1998 (under "Process 1") MBPF Finance processed each application individually. On average, 20% of all applications received approval. An Internal audit showed that, on average, MBPF Finance had about 500 applications in process at various stages of the approval procedure, but on which no decisions had yet been made.

In response to complaints on long processing time, MBPF hired a consulting company that suggested the following changes, creating "**Process 2**".

1. Low percentage of approved applications: An initial Review Team should be set up to preprocess all applications according to strict but fairly mechanical guidelines.
2. Each application would fall into:

(A) Looks excellent (B) Needs more detailed evaluation (C) Reject.

3. Type A and B would be forwarded to different specialist subgroups. Each subgroup would then evaluate the applications in its domain and make accept / reject decisions.

Process 2 was implemented on an experimental basis. The company found, on average, 25% of all applications were of type A, 25% were of B and 50% were of C. Typically, about 70% of type A and 10% of type B were approved on review. On average, 200 applications were with the Initial Review Team undergoing pre-Processing. Only 25 were with the subgroup A Team undergoing the next stage of Processing and approximately 150 were with the subgroup B Team.

Answer the following questions-

i. What was the average processing time for a request under Process 1?
ii. What is the average processing time of a request under Process 2?

Que-2: ***[5 Marks]*** Answer the following questions related to types of workloads-

1. What are the different types of workloads?
2. Which workloads are commonly used by other analysts?
3. How are the appropriate workload types selected?
4. How is the measured workload data summarized?
5. How is the system performance monitored?

Que-3: ***[5 Marks]*** Decide the services, factors, metrics and workload you would chose to compare a magnetic tape backup system consists of several tape data systems, each containing several tape derives. The derives have separate read and write subsystems. Each subsystem makes use of magnetic heads. You may start from the higher levels and go to the lower levels.

Que-4: ***[5 Marks]*** Using a spanning-tree algorithm for cluster analysis, prepare a dendogram for the data shown in following table. Interpret the result of your analysis.

TABLE: Data to be used in question 4.

Program Name	Function	CPU Time	I/O's
TKB	Linker	14	2735
MAC	Assembler	13	253
COBOL	Compiler	8	27
BASIC	Compiler	6	27
Pascal	Compiler	6	12
EDT	Text editor	4	91
SOS	Text editor	1	33

Que-5: ***[5 Marks]*** Describe the guidelines to prepare a good chart. Also explain the following types of charts and their applications-

i. Gantt Charts
ii. Kiviat Graphs
iii. Schumacher Charts