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جامعة كفر الشيخ - كلية الهندسة  
قسم الهندسة الكهربائية

امتحان نهاية الفصل الدراسي الأول للعام الجامعي 2016-2017

مقرر : بنية الحاسبات  
الدرجة من 60  
الفرقة الثالثة - شعبة حاسبات ونظم  
اليوم: 2017/1/23

اجب عن التالي - كل سؤال 10 درجات

- 1- A system includes about 16K instructions, the mean CPI = 5, clock rate is 4GHz, compute MIPS, if a program includes 200 statement and compiler translated them into 5000 micro-instructions, what is the expected time for execution.
- 2- How long it takes to transfer 20 MB to printer via cable with B.W.= 1 Mb/s. if printer storage is 8 MB = 16 pages, the printing rate=2 pages /sec. plot Gantt-time diagram for the sequenced process
- 3- Discuss the effect of using DMA and PCI on speed of handling.
- 4- The statement:  $y=x + y$ ,  
where x is located in symbol table at loc 940, y at loc 941, the compiler saved object of the statement at location 300. write this statement in micro instructions [ Load , Add , Store ], and discuss the execution of statement.
- 5- A- Compare RISC and CISC processors  
b- compare the dedicated bus versus shared bus  
c- If a single bus is connected via computer components, show the requirements needed to act the buses (data bus, address bus, control bus). What if this bus is shared with 6 I/O devices, 2 memory modules, and 2 processors. Discuss how to organize the sharing process.
- 6- Let the next clients to be processed in time sharing schedule ,the slot is dynamic = 5 units, Find The average Waiting time , what if slot time is 10 units. Plot time Gantt diagram for the process.

Customer #	1	2	3	4	5	6	7	8	9	10
Service time	20	15	20	20	5	30	20	30	10	15