what is difference b/w preemptive and non-preemptive (2)
difference b/w progress and bound waiting
virtual machine V scheduling algorithm different steps ty uno ko descending order ma btana ta
pseudo code aya ta 5 marks ka
do{
critical section
exit section
}while (1)
is ma critical section ko handle karna ta
Last 5 number k question ma task diya ta with shortage memory ya btana ta which is best to perform task is thread or child processes
Best of luck 4 all
ALLAH ap sab ko pass kary mery liy b dowa karna

Mine today paper

1) Difference between "progress" and " bounded time: in critical section. 2 marks (ans page 98)
2) Background k bary me tha Question samjh nai aya tha 2 marks
3) If process in background then we want its move in foreground then what unix linux command is use to moving. 3 marks(ans page 65)
4) How The open source help us to test the algorithm 3 marks (ans page94)
5)

p	Cpu burst
P1	5
P2	4
P3	7
P4	1
P5	8
P6	10

Ye table tha isy fcfs , round robin, sjf in 3no me karna tha 5matks

6) Compile and running c program page 28 py jo topic hai aisa he ak program tha or us ki detail btani thi 5 marks

---

My paper had following Subjective Qs
Difference b/w Bounded and Progress
What is Pre-emptive , briefly describe
5 Mks Question : First Come First Serve (FCFS) , Shortest Job First (SJF) and round robin for P1 - P5 , with P 1 and P 5 arriving at 0 , Quantum of 4 for Round Ribin,
Burst Time P1 = 9 , P2 = 4 , P 3 = 6 , P4 = 1 and P5 = 10
What is Shortest Job First , (there was a logical statement like Wait time decreases vs long process
All quiz were from Mega File solved by Miss Kazmi : Thanks VUStudents

---

My today's Paper
Q1.MLFO algorithm is same as SJF algorthim justify your ans Yes or no ?
Q.2.Diff b/w bounded and progress in respect to critical section?
Q.3.Explain Semaphore Algorithm?
Q.4: For terminating a process which command you will use ?
Q.5: Every operating system creates an identified operation or or the process.which includes (data copying, the code ,heap , When UNIX fork () system cal is make at the kernel level as well as at the User level ?
Q:6 Diff b/w FIFO and Pipe ?

and mostly MCQ's were not from the past papers so be careful while attempting your paper.

total 23
1x16
2x3
3x2
5x2

1.what are two problem of using processes that can be overcome by using the threads (5)
2. find the shortcomming of the given sloution of Critical Section Problem (page 106)

```
do
{
while (TestAndSet(lock)) ;
Critical section
lock=false;
Remainder section
} while(1);
```

1.how to dependent processes can communicate within a system(2-marks)
2.for which problem we make there two assumptions (2 marks)
1.Assume that each process executes at a nonzero speed
2. No assumption can be made regarding the relative speeds of the N processes
1.A system have I/o bound processes and CPU bond processes and the IO bound proceses are waiting for the CPU what is the problem comes in mind by the above senario (3 marks)

papers is not straight forward its totally conceptual..
MCQs.. 70 % from old papers but all are conceptual....
Please Be prepared before attend the paper...

PAPER#1
Total 23 Questions
MCQs 16
1. List and define the different metrics by which might evaluate a scheduler (List at least 4). 5 marks
2. Write brief the multilevel feedback queue scheduling. 5 marks
3. Assumption made while formulating a solution to the critical section problem. 2 marks
4. There are many commands. Write the method through which these commands can communicate with each other. 3 marks
5. Write Difference between SJF and Shortest Remaining Time First Scheduling algorithm. 3 marks
6. Write formula for calculating waiting time in preemptive Shortest Job First Algorithm. 2 marks
7. Define race condition and how prevent this condition. 2 marks

---

PAPER#2
Question No: 17 (Marks: 2)
What is Convoy Effect?

Question No: 18 (Marks: 2)
What are the common data structures in Bakery Algorithm?

Question No: 19 (Marks: 2)
How a pipe can be created?

Question No: 20 (Marks: 3)
Define Progress and Bounded Waiting.

Question No: 21 (Marks: 3)
What is Starvation and how it occures

Question No: 22 (Marks: 5)
What are the advantages of Round Robin Scheduling Algorithm?

Question No: 23 (Marks: 5)
Analyze the following algorithm to solve the critical section problem and explain whether it satisfies the Mutual Exclusion Characteristic

```
Flag[i] = True;
Turn = j;
do{
while(Flag[j] = True && turn==j);
critical section
Flag[i] = False;
remainder section
} While(1)
```

---

1)

A code about test and set lock was given to highlight errors 5Marks

2)

What is starvation and what is its solution 5Marks

3)

What are common data structures in Bakery Algorithm 2Marks

4)

Difference between preemptive and Non Preemptive Algorithm 2Marks

5)

How inter process communication is done among processes 2Marks

6)

Difference between SJF and SRTF 3Marks

7)

Three queues in Multi level feed back……..3Marks

Question No: 3 (M a r k s: 1)
The ---------- system call suspends the calling process.

► fork
► wait
► exec
► exit

Question No: 4 (M a r k s: 1)
In ---------addressing, the recipient is not required to name the sender.

► Symmetric
► Asymmetric
► Both symmetric and asymmetric
► None of the given options

Question No: 5 (M a r k s: 1)
-------- command gives a snapshot of the current processes.

► ps
► top
► who
► ls

Question No: 6 (M a r k s: 1)
----------command to resume the execution of a suspended job in the foreground

► fg
► bg
► jobs
► kill

Question No: 7 (M a r k s: 1)
You can use the ---------- command to display the status of suspended and background processes

► fg
► bg
► jobs
► kill

Question No: 8 (M a r k s: 1)
You can terminate a foreground process by pressing ----------

► <Ctrl-A>
► <Ctrl-C>

► <Ctrl-Z>
► None of the given options

Question No: 9 (M a r k s: 1)
A time sharing system is

► Multi tasking

► Interactive

► All of these

► Multi user

Question No: 10 (M a r k s: 1)
The main characteristic of a Real time system is

► Efficiency

► Large Virtual Memory

► Large secondary storage device

► Usability

Question No: 11 (M a r k s: 1)
Shared libraries and kernel modules are stored in _____ directory

► /bin

► /dev

► /boot

► /lib

Question No: 12 (M a r k s: 1)
_____ scheduler selects the process from the job pool and put them in main memory.

► Long term

► Short term

► Medium term

► Swapper

Question No: 13 (M a r k s: 1)
In indirect inter process communication, a sender ___ mention the name of the recipient.

► do

► do not

Question No: 14 (M a r k s: 1)
A _____ is an integer variable that, apart from initialization is accessible only through two standard atomic operations: wait and signal.

► Semaphore

► Monitor

► Critical region

► Critical section

Question No: 15 (M a r k s: 1)
A semaphore that cause Busy-Waiting is termed as _____.

► Spinlock

► Monitor

► Critical region

► Critical section

Question No: 16 (M a r k s: 1)
The execution of critical sections must NOT be mutually exclusive

► True
► False

Question No: 17 (M a r k s: 1)
The performance of Round Robin algorithm does NOT depends heavily on the size of the time quantum.

► True
► False

Question No: 18 (M a r k s: 1)
The following requirement for solving critical section problem is known as _____.
“There exists a bound on the number of times that other processes are allowed to enter their critical sections after a process has made a request to enter its critical section and before that request is granted.”

► Progress

► Bounded Waiting

► Mutual Exclusion

► Critical Region

Question No: 19 (M a r k s: 1)
The critical section problem can be solved by the following except

► Software based solution

► Firmware based solution

► Operating system based solution

► Hardware based solution

Question No: 20 (M a r k s: 1)
_____ is also called Swapper.

► Swap space

► Medium term scheduler

► Short term scheduler

► Long term scheduler

Question No: 21 (M a r k s: 2)
Write the formula/ procedure for calculating the waiting time in preemptive Shortest Job First scheduling.

Question No: 22 (M a r k s: 2)
What are the common data structures in Bakery Algorithm?

Question No: 23 (M a r k s: 3)
If a process exits and there are still threads of that process running, will they continue to run?

Question No: 24 (M a r k s: 3)
What are the important characteristics of TestAndSet? What will be its advantage.

Question No: 25 (M a r k s: 5)
Considering the Resource sharing feature of thread, what do you think is ‘resource sharing’ an advantage of a thread or disadvantage of a thread. Explain yours answer briefly.

Question No: 26 (M a r k s: 5)
Analyze the given algorithm proposed to solve the critical section problem. Identify the shortcomings of this algorithm.

```
do{
while(turn!=j);
critical section
turn=j;
remainder section
} while(1)
```

---

1. Write down code in C to create thread and print “Welcome to Virtual University of Pakistan” which will be printed by the threaded version. (5)

2. The given code is as following;

```
boolean flag[2];
int turn;
do
{
flag[i]=true;
turn=j;
while(flag[j] && turn==j);
critical section
flag[i]=false;
remainder section
} while(1)
```

Explain if the given code satisfies Mutual Exclusion or not. Justify your answer. (5)

3. write down the software based solution for critical section problem (2)
4. Given the code, whether it creates a deadlock or not. (3)
In the given code two processes were shown and same condition was set for both, dead lock is going to be created as both will keep on waiting for other.. (I forgot the code)

5. while working on linux, by which command you can show information about a process (2)
6. aging is a technique to avoid starvation caused by certain scheduling algorithms. how will you overcome the problem of starvation by implementing agin?? 3 marks.
most of the mcqs were easy and from past papers

Mcqs handouts main se thy past papers main se nhi thy sab new thy
Q#1:number of the queues can be used in multilevel queue and multi feedback queue?(2 M)
Q#2:A CPU scheduler has different evaluation metrics and throughput on one of them. State how through put relates to evaluation of matrices of the CPU scheduling?(2M)

Q#3: if processor is run in the background we want to move in foreground write the LINIX/UNIX command for this process?(3 M)
Q#4:Suppose the UNIX system, P1&p2 both has the priority numbers 60, in the given case what will be scheduling criteria?(3M)
Q#5:Semaphore is variable and abstract data type that provide a simple but useful abstraction for controlling access by multiple excess to common resource in parallel environment A semaphore has record how many units are particular source are available, coupled with operations to safely adjust the records as units are required or became free and its necessary waits until a unit of the resources becomes available. You have to identify the drawbacks which are due to using semaphore?(5M)
Q#6:Out of (SRTF) and round robin scheduling algorithm which one is best suited to be used in time-sharing system where response time is an important performance criteria? Give reasons in your answer?(5M) Remember me in your PRAYERS
BEST OF LUCK

---

what is process synchronization? give an example
what is indefinite blocking and which technique can be used to resolve this issue.
Critical section ki defination given ti aur batana ta k whether u r agree with it or not.
Resouce sharing is the advantage or disadvantage of thread? explain with strong arguemtns.
2 bhul gai
past paper se koi question ni aya . mcqs past papers se aye ty mostly

---

CS604 Today 08/06/2014
MCQ's from past papers
Subjective
1) thread ka tha ek
2) command to terminate the fore ground whose id 4
3) write 3 multi feedback queue name
4) Define starvation.
5) Negative effect of spin-lock.

---

1) command to move background process to foreground. 2
2)how to initialize samaphore variable? 2
3) 1 code given tha producer process ka us me counter variable ka pupose btana tha? 3 page no 95 lectr notes
4) define indefinite blocking ?3
5)define indefinite blocking and write its solution if exists?5
6)requirements that must fullfilled for critical section? 5

My todays cs604 paper 10-30
mcqs 50 % moaz file and subj is:
If process in background then we want its move in foreground then what unix linux command is use to moving. 2m
write semantics of the TestAndSet instruction.2m
Discuss in what situation indirct blocking and what is the solution to avoid this.3mrks
write a function to swap two variables. 3m
Solution to the critical section problem must satisfy which requirements discuss about them. 5m
and why cpu need scheduling mtlb scheduling k baray me tha mje wo sahi ni rha kya tha.5m

Talib -e- dua Malik Ali Awan

my today paper 9 jun 8:30am
mcq 14 were from past
subjctive not from past
q no 1:one to one thread and kernal scheduling
q no 2 : code was given , counter k barey men btan th ais ka kia kam hai?
q no 3, multilevel queue in the 89 page lectr no 17 jo figure bni hui hai , ye given thi , is ka process btana tha, sath iski value bhi di hui thi ,
q no 4 3 task of scheduling name them , FCFS,SJF etc
Q no 5 men can we use FIFO for read only memry?if yes or no give the reason and solution?
1 q critical section se tha , is trah poch hua th a , mujhy bhi smjh nhi aa rhi thi ,?
overall paper was conceptual , jin logn ne dena hai ,13,14 se 20 tk lectr lazmi sun len ,sara paper sbjctive yahen se tha , phr 21 22 easy hn read kr k jst un k prograam yad kr len ,

---

Uzma Kanwal 09-06-2014 8:30am Mid term Paper:
MCQS:
12 almost moaz filse say thay and baki new thay
Subjective:
1-RR ki kuch clues dyay way thay or pocha tha k knsa algo best hay is situation k lyay **2M.**
2-atleast two real life examples of critical section **2M**
3- can we use FIFO for read only memry?if yes or no give the reason and solution? **3M**
4-kis algo nay mutual xclusion ko satisfy kiya **3M**
5-FCFS calculate karna tha **5M**
6-pg 89 MLFQ ki digram di v the and **5M**
a) P1 process =16,p2 process = 27 which will xecute in queue 2
b) How processes move in between different queues

Easy Mcqs, mostly from past papers.

02 Nos
1. Difference between turn around and response time
2. Semantic of Swap

03 Nos
1. Open Software help to test algorithm
2. FIFO failure, Is Make FIFO lib call, FIFO system call are same? Give reasons

05 Nos
1. Which algorithm is used to convert Primitive to non-primitive
2. FCFS, SJF, RR, Find the order of process.

My current paper:-
MCQ: Mostly from Moaaz files, relatively easy
Subjective Questions were totally new and nothing from current shared papers :(
1. Definition of Throughput (2 marks)
2. What is the difference between Progress and bounded waiting (3 marks)
3. What are the hardware solution of critical section problem, name the statements and which conditions they do not satisfy? and why? (5 marks)

4. Who manage Kernel level threads and how their scheduling is done? (3 marks)
5. What is the name of the method which takes per-determined workload to evaluate which scheduling algorithm is best. This technique uses a formula, name its components? (3marks)
6. This code was given it was asked which process will execute in foreground and which will execute in background? and what are these two indicate [1] and 432056? (5marks)

```
$ gcc server.c -o server
$ gcc client.c -o client
$ ./server &
[1] 432056
$ ./client
Hello, world!
Hello, class!
$
```

Best of luck...to all

My today's paper of cs604
MCQs 50% from past papers.
subjective was conceptual …
Q1..tell the name No concurrency in which thread ?
Q2. multi thread m se tha..
Q3.swaping
Q4.coding ka short answer dena tha..
Q5.open source
Q6.how thread is created?and also which condition thread is not created?

My today's paper of cs604
MCQs 50% from past papers.
subjective was conceptual …
Q1..tell the name No concurrency in which thread ?
Q2. multi thread m se tha..
Q3.swaping
Q4.coding ka short answer dena tha..
Q5.open source
Q6.how thread is created?and also which condition thread is not created?

Paper was easy... Some mcqs were from moaazz file and most were from handouts so read handouts carefully esp frm lecture 15 to 20 for subjective
1. Calculate waiting times and average waiting times for FCFS algorithm for given Burst time. (5)
2. Algorithm 1 was written

---

my todays paper cs 604
12 mcqs from past paper 6 wr new
1: progress n bounded waiting according to critical section batana tha 2 marks
2:preemptive sjf ki ager koi new vrsion h tu us ko non preemptive k according immplmentation ,etc batani thi ager ni h tu average- time ko justify krna tha. 5 marks
3:mutual excusion according to swapping koi coding kerni thi 5 marks

4aur 5 coding givn thi wrong ko identify kr k correct likhni thi

---

my paper
all mcqs from past papers of moaaz file
subject ma preemptive or non preemptive ka ak sawal tha
2 critical section problem ka sawal tha atleast twi real time example of
critical section 3 pyscheduling alogrithme 7 deay way thy batana tha k kon
sa preemptive ha or kon sa non preemptive for example sjfs ,fcfs ya non ha or round
robin ya preemptive ha or sjf or multilevel feedback
ak sawal tha k kia client server ky leay possible ha atatime reply karna is ko explan kar k batana tha 2 sawal mushkal thy yaad nahe par coding ky thy

---

My paper
Mcqs were new and subjective is down below:
1.Differentiate between enter section and remainder section?
2.Find the value of P1 and P2?the code was given.
3.question from critical section which type used both hardware and software solution?
4.A scenario was given you have to select from threads and child process you can use?

Paper was easy... Some mcqs were from moaazz file and most were from handouts so read handouts carefully esp frm lecture 15 to 20 for subjective
1. Calculate waiting times and average waiting times for FCFS algorithm for given Burst time. (5)
2. Algorithm 1 was written and asked its shortcomings. (5)
3.one thread is process and other is kernel..one more thread is, which is created and managed by other thread. tell the name and also how it is created and managed? (3)
4. difference between progress and bounded waiting? (2)
5. which command is use to terminate the process? (2)

---

paper was easy... if u want good marks then read first 110 pages of handouts.
20 mcq's, 70% from past papers.
1. write and change command from foreground to background.(2)
2.write formula what's the name of this formula.(2)
3.write three Advantages of scheduling algorithm(3).
4.write three similarity b/w process and scheduling.(3)
5.Question about diagram.(5)
6. Question about context switching..... sorry theek se yad nhi aa rha (5)

CS604 Current Midterm Papers Fall 2014 - 2015 Starting from Monday, January 12, 2015
Define any 2 similarities of process and thread. 2 marks.
How information of process is displayed? 2 marks.
How process creates another process and if it does not created how it is notified? 5 marks.
What are the techniques for analysis of schedules and in what categories they fall? 5 marks.

The following requirement for solving critical section problem is known as _____. “There exists a bound on

the number of times that other processes are allowed to enter their critical sections after a process has made a request to enter its critical section and before that request is granted.”
Progress
Bounded Waiting (Page# 99)
Mutual Exclusion
Critical Region
_____ directory includes essential system boot files including the kernel image.
/bin
/boot (Page# 23)
/dev
/etc
Bounded Buffer is a buffer of _____ size.
Variable
fixed (Page# 41)
To copy a file we use ____ command.
CP

My today’s paper of cs604
MCQs 50% from past papers.
subjective was conceptual …
Q1..tell the name No concurrency in which thread ?
Q2. multi thread m se tha..
Q3.swaping
Q4.coding ka short answer dena tha..
Q5.open source
Q6.how thread is created?and also which condition thread is not created?

---

cs 604 midterm paper current 2013 may 25 to 5 june
Paper was easy... Some mcqs were from moaazz file and most were from handouts so read handouts carefully esp frm lecture 15 to 20 for subjective

1. Calculate waiting times and average waiting times for FCFS algorithm for given Burst time. (5)

2. Algorithm 1 was written and asked its shortcomings. (5)

3.one thread is process and other is kernel..one more thread is, which is created and managed by other thread. tell the name and also how it is created and managed? (3)

4. difference between progress and bounded waiting? (2)

5. which command is use to terminate the process? (2

Cs 604 midterm

1. Calculate waiting times and average waitinf times for FCFO algorithm for given Burst time. (5)

2. Algorithm 1 was written and asked its shortcomings. (5)

3. For Bounded buffer and consumed process code was written, asked about "counter" variable purpose in it. (3)

4. one thread is process and other is kernel..one more thread is, which is created and managed by other thread. tell the name and also how it is created and managed? (question was aked like this and It's answer was about user thread.) (3)

5. what is the name of the formula for queuing theory and also write formula. (2)

6. which thread is managed by OS? (2)

---

1. Process can run either as a back ground process may be in the state of running our suspended. if there is process running on your machine and your wanted to terminate a process in a LINEX/UNIX shell? Which command use?
2. While dealing with N processes critical section problem which variable is shared in semaphore and how it is initialized?
3. Open source software's are continuously upgraded by the different developers. How open source software has made it possible for us to test various algorithms instead of pirated software?
4. Different types of threads work in the operating sys one of the process and the threads and other one is central threads. A type of the thread where kernel remains unaware of its crative and management fall in which category and how these are created and managed?
5. Aik 5 marks ka question tha ose FSCS se solve karna tha.

My today's paper
preemptive and non-preemptive algorithm?? 3 marks
difference between progress and bound time???
1 5 marks ka question tha us main 5 processes thay and their CPU bursts.in processes ka scheduling order likhna tha according to round-robin,shortest job first and FCFS. 5 marks
many to one mapping??
and mcqs past papers main se ni thay
but paper easy tha

Mcq's were easy. Didn't read the moazz file so don't know k kitnay percent match hoa.
1. If ID of a process is 4, write down the command to shift it into a foreground process. (2 marks)
2. Critical section problem (2 marks)
3. Sort according to response time. (high to low) (3 marks)
   - Multilevel queue
   - FCFS
   - SJF
4. Characteristics were given of (multilevel queue) and we needed to identify which algorithm it was (3 marks)
5. Characteristics were given (multilevel queue, multielevel feedback queue ya UNIX V algorithm) main say koi aik identify kar k bataana tha k dosray 2 say kaisay alag hai. (5 marks)
6. How evaluation of scheduled task can be done (any 3 conditions) (5 marks)

---

my todays paper
paper was conceptual but easy so read out carefully last 12-22 lec
Sort according to response time. (high to low

FCFS
- SJF
priority scheduling
q: consider the performance of FCFS algotithm 3 process are given p1=24 sec ,p2 =3 sec, p3=3

processes are arrived at the sequence of p1,p2,p3 calculate the turnarroound time and averge turn arround time?
q:if a low priority process comes in the queueand many processes keep on coming in the having low priority process AND having high priority process never get the CPU .write the name of thepossible solution(3)
q: some groups are made on the basis of interactive and batch process some groups are made and then on the basis of these groups a scheduling algo is impelemented write name of the alforithm?

The turnaround time of a process under round robin is also depends on the size of the time quantum. In Figure 16.3 we show a workload of four processes P1, P2, P3, and P4 with their next CPU bursts as 6, 3, 1, and 7 time units. The graph in the figure shows that best (smallest) turnaround time is achieved when quantum size is 6 or greater. Note that most of the given processes finish their next CPU bursts with quantum of 6 or greater. We can make a general statement that the round-robin algorithm gives smallest average turnaround time when quantum value is chosen such that most of the processes finish their next CPU bursts within the quantum.

---

mcqs from almost from past papers
subjective
difference b/w preemetive or non-premetive? 2 marks
is this possible single thread web server respond multi request? 3 marks
progress and bounded time? 2 marks
schedule critaria? 5 marks
give the sanario and we suggest better schedule for that..... wasa scheduler round robin tha? 5 marks

---