CS & IT ENGINEERING

Operating System

Process Synchronization / Coordination

DPP 10 (Discussion Notes)

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01 Question

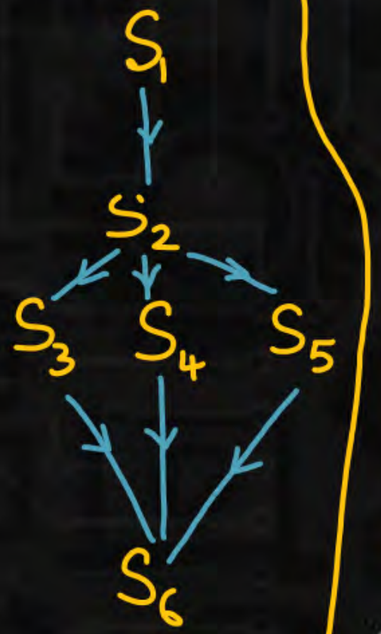
02 Discussion

Q.1

[MSQ]

Consider the following concurrent program:

```
begin
    S1;
    S2;
    Parbegin
        S3;
        S4;
        S5;
    Parend;
    S6;
end;
```



B, D.

A. S_1, S_2, S_3, S_4, S_5 run sequentially.

B. S_3, S_4, S_5 run concurrently.

C. S_1, S_2, S_6 run concurrently.

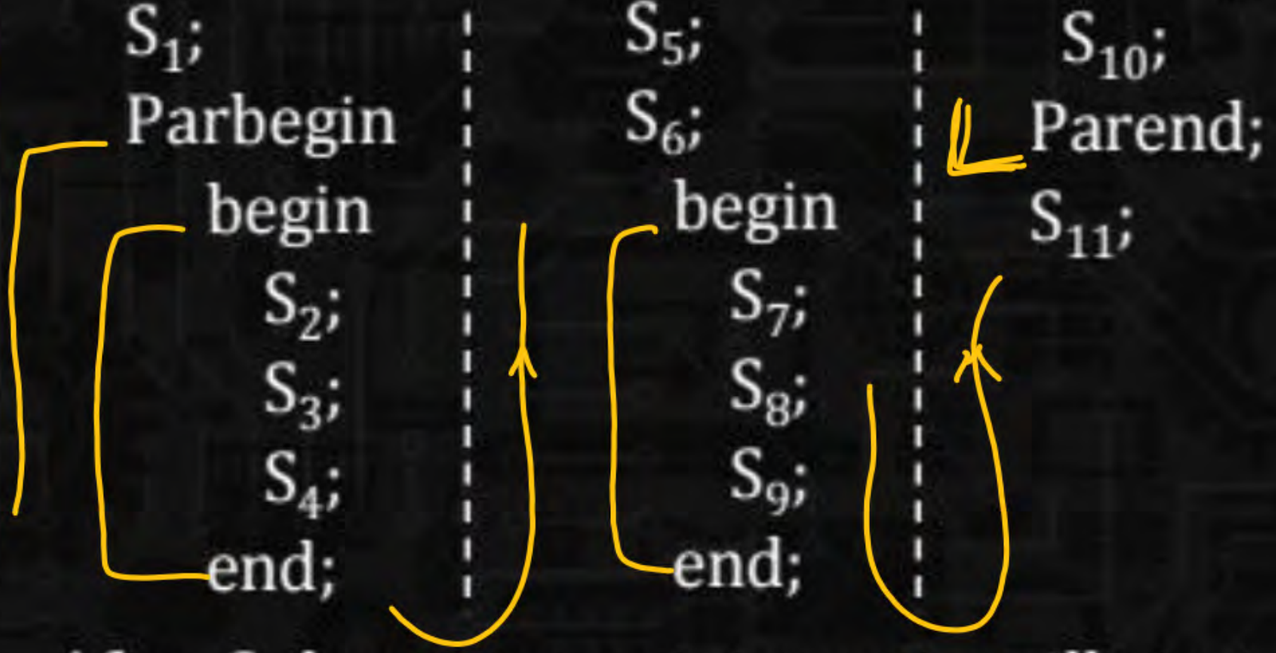
D. S_1, S_2, S_6 run sequentially.

Which of the following statement is correct about above program?

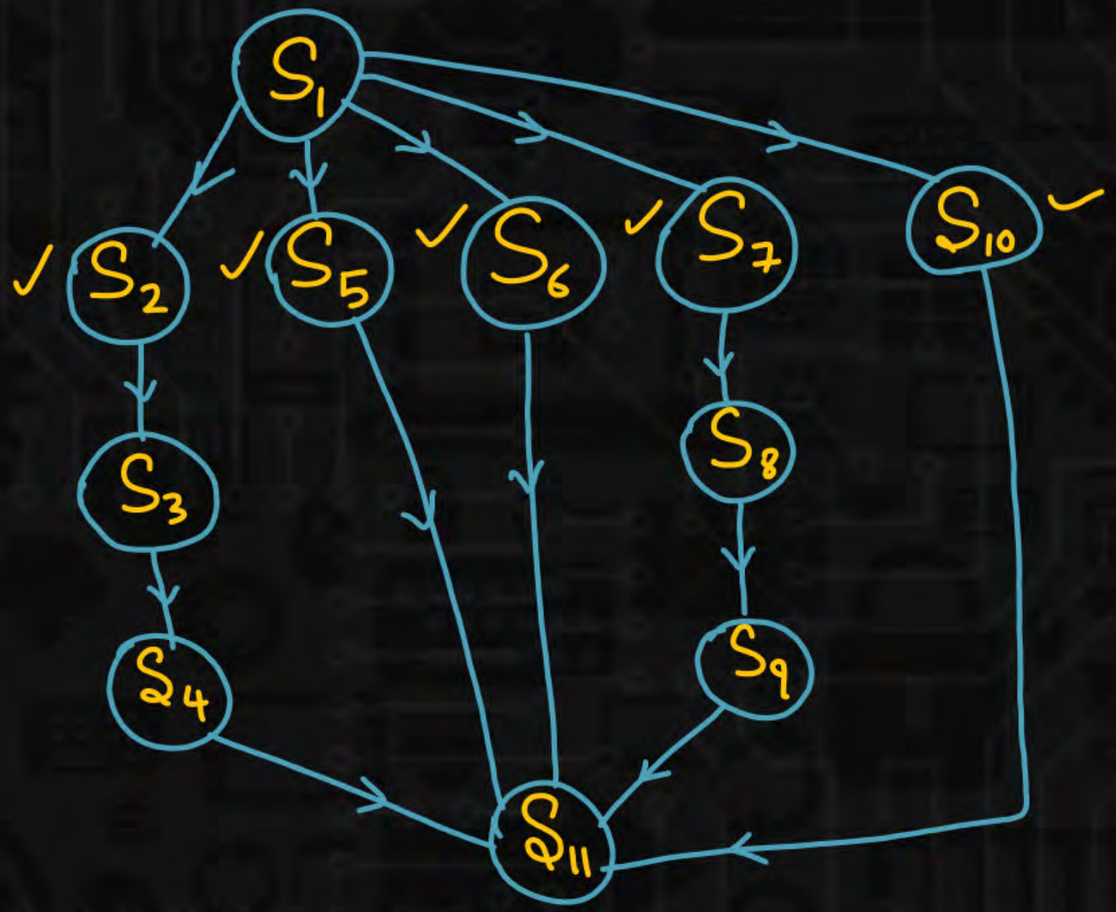
Q.2

[NAT]

Consider the following concurrent program



After S_1 how many statements will start concurrently?



5

Q.3

[MCQ]

Consider the given precedence graph:
Which of the following represent correct concurrent program of above precedence graph?

S1
Parbegin
S2
Parbegin
S6
S5
Parend
S8
S3
Begin
S4
S7
end

Parend
S9.

A.

```
S1;
Parbegin;
 S3;
  begin
   S7;
   S4;
    Parbegin
     S2;
        Parbegin
          S6;
          S5;
        Parend;
     S8;
    Parend;
  end;
Parend;
S9;
```

B.

```
S1;
Parbegin
 begin
 S2;
    Parbegin
     S6;
     S5;
    Parend;
end;
   S8;
    begin
     S4;
     S7;
    end;
   S3;
Parend;
S9;
```

C.

```
S1;
Parbegin
  begin
   S2;
    Parbegin
      S6;
      S5;
    Parend;
    S8;
  end;
S3;
begin;
   S4;
   S7;
   end;
Parend;
S9;
```

D.

```
S1;
Parbegin
     begin
      S4;
      S7;
    S2;
        Parbegin
          S6;
          S5;
        Parend;
     S8;
     S3;
Parend;
S9;
```

Q.4

Which of the following statements is/are correct? [MSQ]

```
main()
    {
  Parbegin
        P();
        Q();
        R();
  Parend;
}
```

```
void P(void)
{
  Parbegin
        10;
        20;
        30;
  Parend;
}
```

```
void Q(void)
{
  Parbegin
        40;
        50;
        60;
  Parend;
}
```

```
void R(void)
{
  Parbegin
        70;
        80;
        90;
  Parend;
}
```

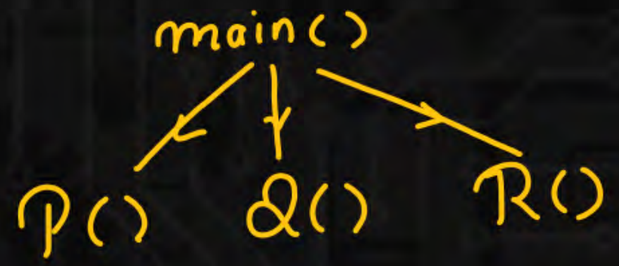
Which of the following output sequences are possible after the successful completion of P( ), Q( ), and R( )?

A. 1 2 3 4 5 6 7 8 9

B. 4 1 2 5 3 6 7 9 8

C. 4 1 5 6 2 4 7 8 9 ✗

D. 9 7 6 1 2 5 6 2 3 ✗



1() 2() 3() 4() 5() 6() 7() 8() 9()

1, 2, 3, 4, 5, 6, 7, 8, 9

2, 3, 1, 4, 9, 6, 7, 8, 5

9, 8, 7, 6, 5, 4, 3, 2, 1

Q.5

Deadlock is _____

[MCQ]

A. Starvation

B. Blocking a process for defined time

C. Infinite waiting

D. Utilization of CPU

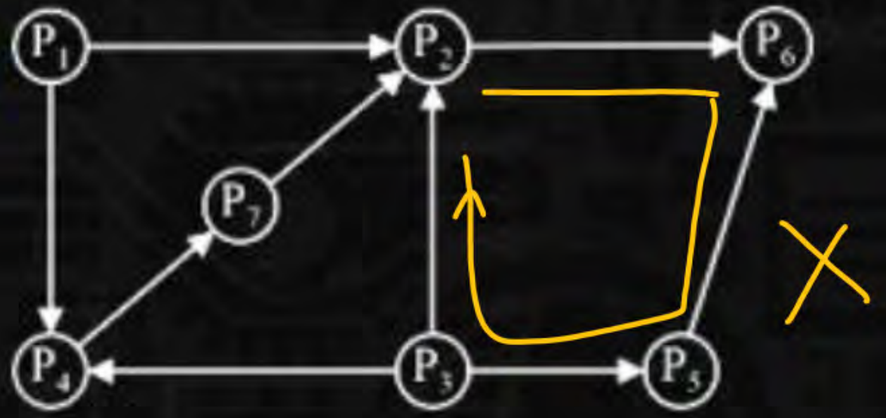
Q.6

Which of the following graph represents deadlock?

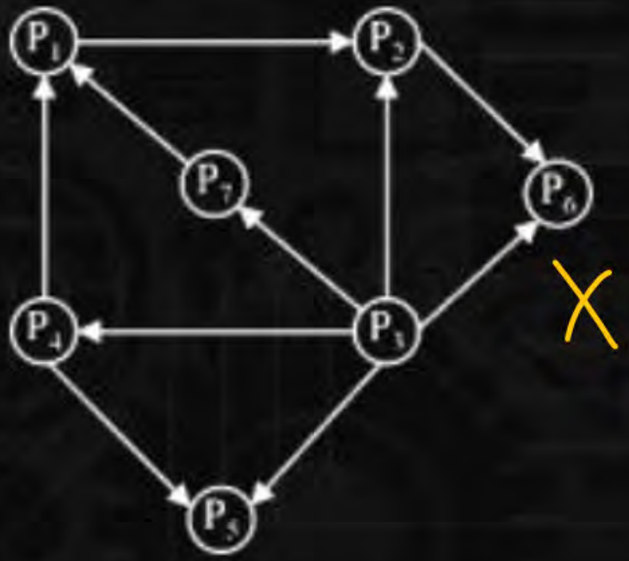
[MCQ]

A.

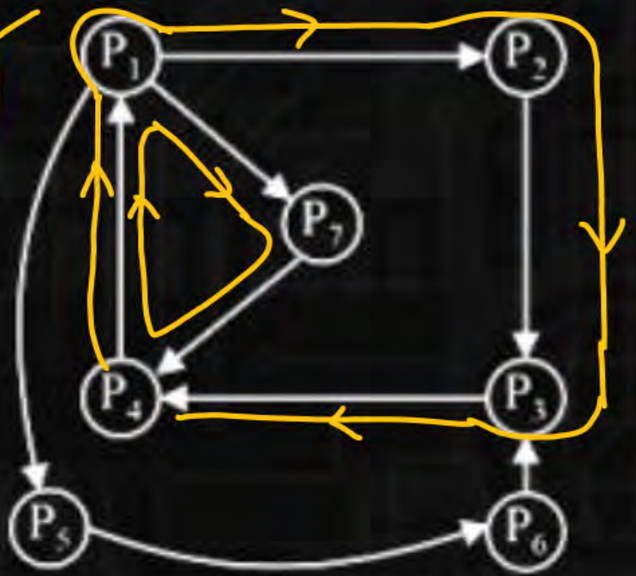
B.



C.



D.



Q.7

Which of the following statement is/are correct?

[MSQ]

A. Deadlock is indefinite waiting. ✗

B. Deadlock is infinite waiting. ✓

C. Starvation is infinite waiting. ✗

D. Starvation is indefinite waiting. ✓

Q.8

A problem encountered when a process is perpetually denied for indefinite time from necessary resources because that resource is currently used by another process. Such problem is known as _____

[MCQ]

A. Deadlock

B. Ageing

C. Infinite blocking

D. Starvation


THANK YOU GW
SOLDIERS !