

## Unit 8 - Week 6

Course outline
How does an NPTEL online course work?
Week 0
Week 1
Week 2
Week 3
Week 4
Week 5
Week 6
<ul style="list-style-type: none"> <li>● Lecture 26 : Primitive roots - II</li> <li>● Lecture 27 : Primitive roots - III</li> <li>○ Lecture 28 : Primitive roots - IV</li> <li>○ Lecture 29 : Structure of <math>U_n</math> - I</li> <li>○ Lecture 30 : Structure of <math>U_n</math> - II</li> <li>○ Quiz : Assignment 6</li> <li>○ Assignment-6 Solutions</li> <li>○ Assignment-6 Detailed Solutions</li> <li>○ Weekly Feedback</li> <li>○ Download Videos</li> </ul>
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Live Session

## Assignment 6

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

**Due on 2020-10-28, 23:59 IST.**

Please note that multiple options may be correct.

1) Find the numbers  $n$  from the given choices with the property that  $U_n$  admits a primitive root. 1 point

- 841,  
 881,  
 901,  
 921,  
 941,  
 961.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
841,  
881,  
941,  
961.

2) Find the numbers  $n$  from the given choices with the property that  $U_n$  does not admit a primitive root. 1 point

- 1361,  
 1363,  
 1367,  
 1369,  
 1371,  
 1373.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
1363,  
1371.

3) Find primitive roots modulo 121 from the given choices. 1 point

- 35,  
 50,  
 61,  
 79,  
 95,  
 96.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
35,  
50,  
61,  
79,  
95,  
96.

4) Find primitive roots modulo 343 from the given choices. 1 point

- 52,  
 54,  
 94,  
 96,  
 146,  
 148.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
52,  
54,  
94,  
96,

5) Find the numbers  $n$  from the given choices with the property that 13 is a primitive root modulo  $n$ . 1 point

- 47,  
 49,  
 53,  
 59,  
 61,  
 67.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
47,  
59,  
67.

6) Find the numbers  $n$  from the given choices with the property that 17 is a primitive root modulo  $n$ . 1 point

- 121,  
 131,  
 141,  
 151,  
 161,  
 171.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
121,  
131,

7) Find the numbers  $n$  from the given choices with the property that  $U_n$  is isomorphic to the group  $C_2 \times C_3 \times C_3 \times C_4 \times C_5$ . 0 points

- 403,  
 407,  
 417,  
 427,  
 444,  
 475.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
403,  
407,  
427,  
475.

8) Find the numbers  $n$  from the given choices with the property that  $U_n$  is isomorphic to the group  $C_2 \times C_{10} \times C_{12}$ . 1 point

- 241,  
 287,  
 305,  
 325,  
 369,  
 385.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
385.

9) Which of the following is isomorphic to  $U_{1008}$ ? 1 point

- $C_2 \times C_2 \times C_2 \times C_2 \times C_2 \times C_3 \times C_3$ .  
  
 $C_3 \times C_3 \times C_4 \times C_6$ .  
  
 $C_6 \times C_6 \times C_8$ .  
  
 $C_2 \times C_3 \times C_6 \times C_8$ .  
  
 $C_2 \times C_2 \times C_2 \times C_3 \times C_3 \times C_4$ .  
  
 $C_2 \times C_2 \times C_8 \times C_9$ .

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
 $C_2 \times C_2 \times C_2 \times C_3 \times C_3 \times C_4$ .

10) Which of the following is isomorphic to  $U_{1128}$ ? 1 point

- $C_{368}$ .  
  
 $C_2 \times C_2 \times C_2 \times C_{23}$ .  
  
 $C_6 \times C_{46}$ .  
  
 $C_2 \times C_4 \times C_2 \times C_{23}$ .  
  
 $C_2 \times C_2 \times C_2 \times C_2 \times C_{23}$ .  
  
 $C_2 \times C_2 \times C_2 \times C_{46}$ .

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
 $C_2 \times C_2 \times C_2 \times C_2 \times C_{23}$ .  
 $C_2 \times C_2 \times C_2 \times C_{46}$ .