Assignment 12

Due on 2022-4-22, 23:59 IST.

1. What is the order of the quaternion group? Explain.

2. What is the cyclic group of order 4? Explain.

3. What is the dihedral group of order 8? Explain.

4. What is the symmetric group of order 6? Explain.

5. What is the alternating group of degree 4? Explain.

6. What is the quaternion group of order 8? Explain.

7. What is the dihedral group of order 16? Explain.

8. What is the symmetric group of order 12? Explain.

9. What is the alternating group of degree 5? Explain.

10. What is the quaternion group of order 16? Explain.

11. Describe the structure of the quaternion group.

12. Describe the structure of the dihedral group.

13. Describe the structure of the symmetric group.

14. Describe the structure of the alternating group.

15. Describe the structure of the quaternion group.

16. Describe the structure of the dihedral group.

17. Describe the structure of the symmetric group.

18. Describe the structure of the alternating group.

19. Explain the concept of a Cayley graph for a group.

20. Explain the concept of a presentation of a group.

21. Explain the concept of a normal subgroup.

22. Explain the concept of a quotient group.

23. Explain the concept of a homomorphism.

24. Explain the concept of an isomorphism.

25. Explain the concept of a subgroup.

26. Explain the concept of a subgroup of a group.

27. Explain the concept of a group action.

28. Explain the concept of a permutation group.

29. Explain the concept of a matrix group.

30. Explain the concept of a crystallographic group.

31. Explain the concept of a finite group.

32. Explain the concept of an infinite group.

33. Explain the concept of a group with a given presentation.

34. Explain the concept of a group with a given action.

35. Explain the concept of a group with a given representation.