Task 2 – Part A:

```
import random

def owzthat_match(balls_to_bowl, wickets_available):
    runs_scored = 0
    wickets_lost = 0
    current_ball = 1

    print(f"Starting the Owzthat cricket match with {balls_to_bowl} balls and
{wickets_available} wickets.")

    while current_ball <= balls_to_bowl and wickets_lost < wickets_available:
        print(f"Ball {current_ball}:")
        batting_dice = random.choice([1, 2, 3, 4, 6, "owzthat"])
        print(f"Batting dice result: {batting_dice}")

        if batting_dice == "owzthat":
            umpire_dice = random.choice(["bowled", "stumped", "caught", "not
out", "no ball", "lbw"])
            print(f"Umpire dice result: {umpire_dice}")

            if umpire_dice in ["bowled", "stumped", "caught", "lbw"]:
                print("Out! The batter loses a wicket.")
                wickets_lost += 1
            elif umpire_dice == "no ball":
                print("No ball! One run added, and the ball must be bowled
again.")
                runs_scored += 1
            else:
                print("Not out! No wickets lost.")
        else:
            runs_scored += batting_dice
            print(f"{batting_dice} runs added to the total score.")

        current_ball += 1

    if wickets_lost == wickets_available:
        print(f"All wickets lost! Match over.")
    else:
        print(f"All balls bowled! Match over with {runs_scored} runs scored
and {wickets_lost} wickets lost.")

# Sample match with 10 balls and 2 wickets
owzthat_match(10, 2)
```

Output:

```
Starting the Owzthat cricket match with 10 balls and 2 wickets.
Ball 1:
Batting dice result: 2
2 runs added to the total score.
Ball 2:
Batting dice result: 2
2 runs added to the total score.
Ball 3:
Batting dice result: 6
6 runs added to the total score.
Ball 4:
Batting dice result: 6
6 runs added to the total score.
Ball 5:
Batting dice result: 6
6 runs added to the total score.
Ball 6:
Batting dice result: 4
4 runs added to the total score.
Ball 7:
Batting dice result: 3
3 runs added to the total score.
Ball 8:
Batting dice result: 2
2 runs added to the total score.
Ball 9:
Batting dice result: 2
2 runs added to the total score.
Ball 10:
Batting dice result: 3
3 runs added to the total score.
All balls bowled! Match over with 36 runs scored and 0 wickets lost.
```

Task 2 – Part B:

```
import random

def original_owzthat_match(balls_to_bowl, wickets_available):
    runs_scored = 0
    wickets_lost = 0
    no_balls = 0  # Count for no balls
    partnership_runs = 0  # Count for partnership runs
    current_ball = 1

    while current_ball <= balls_to_bowl and wickets_lost < wickets_available:
        batting_dice = random.choice([1, 2, 3, 4, 6, "owzthat"])

        if batting_dice == "owzthat":
            umpire_dice = random.choice(["bowled", "stumped", "caught", "not
out", "no ball", "lbw"])

            if umpire_dice in ["bowled", "stumped", "caught", "lbw"]:
                wickets_lost += 1
            elif umpire_dice == "no ball":
                no_balls += 1
                runs_scored += 1
            else:
                partnership_runs = 0
        else:
            runs_scored += batting_dice
            partnership_runs += batting_dice

        current_ball += 1

    return runs_scored, wickets_lost, no_balls, partnership_runs

def variant_owzthat_match(balls_to_bowl, wickets_available, partnerships):
    total_runs = 0
    wickets = 0
    no_balls = 0  # Count for no balls
    partnership_runs = 0  # Count for partnership runs
    current_ball = 1
    current_partner = 1

    while current_ball <= balls_to_bowl and wickets < wickets_available:
        batting_dice = random.choice([1, 2, 3, 4, 6, "owzthat"])

        if batting_dice == "owzthat":
            umpire_dice = random.choice(["bowled", "stumped", "caught", "not
out", "no ball", "lbw"])

            if umpire_dice in ["bowled", "stumped", "caught", "lbw"]:
```

```
                wickets += 1
                partnership_runs = 0
                if wickets % partnerships == 0:
                    current_partner += 1
            elif umpire_dice == "no ball":
                no_balls += 1
                partnership_runs += 1
            else:
                partnership_runs = 0
        else:
            total_runs += batting_dice
            partnership_runs += batting_dice

        current_ball += 1

    return total_runs, wickets, no_balls, partnership_runs

# Simulate the original Owzthat match
original_runs, original_wickets, original_no_balls, original_partnership_runs
= original_owzthat_match(50, 10)

# Simulate the variant Owzthat match
variant_runs, variant_wickets, variant_no_balls, variant_partnership_runs =
variant_owzthat_match(50, 10, 5)

# Print summary table
print("{:<25} {:<15} {:<15} {:<15}".format("Metric", "Original Owzthat",
"Variant Owzthat", "Difference"))
print("="*70)
print("{:<25} {:<15} {:<15} {:<15}".format("Total Runs", original_runs,
variant_runs, variant_runs - original_runs))
print("{:<25} {:<15} {:<15} {:<15}".format("Wickets Lost", original_wickets,
variant_wickets, variant_wickets - original_wickets))
print("{:<25} {:<15} {:<15} {:<15}".format("No Balls", original_no_balls,
variant_no_balls, variant_no_balls - original_no_balls))
print("{:<25} {:<15} {:<15} {:<15}".format("Partnership Runs",
original_partnership_runs, variant_partnership_runs, variant_partnership_runs
- original_partnership_runs))
```

Output:

```
Metric                    Original Owzthat Variant Owzthat Difference
======================================================================
Total Runs                119              107              -12
Wickets Lost              7                7                0
No Balls                  4                4                0
Partnership Runs          63               48               -15
```