SUMMARY AND CONCLUSION

The present study “Development of a process to prepare milk based dessert using bottle gourd and rice powder” was conducted with the following objectives:

1. To standardize the process for the development of milk based dessert using bottle gourd and rice powder.

2. To study the chemical and organoleptic quality of the milk based dessert prepared by using bottle gourd and rice powder.

3. To determine the energy value of the milk based dessert using bottle gourd and rice powder.

4. To estimate the cost of the dessert prepared.

Three different types of milk and three different percentage of rice powder were used for making dessert and two different percentage of bottle gourd were used in the experimental work. Dessert prepared from different treatment combinations were compared with each other.

T1B1R1 – Dessert prepared by using milk with 1.5 per cent of milk fat and 5 percent of bottle gourd and 2 percent of rice powder was used.

T1B1R2 – Dessert prepared by using milk with 1.5 per cent of milk fat and 5 per cent of bottle gourd and 4 percent of rice powder was used.

T1B1R3 – Dessert prepared by using with 1.5 per cent of milk fat and 5 per cent of bottle gourd and 6 per cent of rice powder was used.

T1B2R1 – Dessert prepared by using 1.5 per cent of milk fat and 10 per cent of bottle gourd and 2 per cent of rice powder was used.
T1B2R2 – Dessert prepared by using 1.5 per cent of milk fat and 10 per cent of bottle gourd and 4 per cent of rice powder was used.

T1B2R3 – Dessert prepared by using 1.5 percent of milk fat and 10 per cent of bottle gourd and 6 per cent of rice powder was used.

T2B1R1 – Dessert prepared by using 3 per cent of milk fat and 5 per cent of bottle gourd and 2 per cent of rice powder was used.

T2B1R2 – Dessert prepared by using 3 per cent of milk fat and 5 per cent of bottle gourd and 4 per cent of rice powder was used.

T2B1R3 – Dessert prepared by using 3 per cent of milk fat and 5 per cent of bottle gourd and 6 per cent of rice powder was used

T2B2R1 – Dessert prepared by using 3 per cent of milk fat and 10 per cent of bottle gourd and 2 per cent of rice powder was used.

T2B2R2 – Dessert prepared by using 3 per cent of milk fat and 10 per cent of bottle gourd and 4 per cent of rice powder was used.

T2B2R3 – Dessert prepared by using 3 per cent of milk fat and 10 per cent of bottle gourd and 6 per cent of rice powder was used.

T3B1R1 – Dessert prepared by using 4.5 per cent of milk fat and 5 per cent of bottle gourd and 2 per cent of rice powder was used.

T3B1R2 – Dessert prepared by using 4.5 per cent of milk fat and 5 per cent of bottle gourd and 4 per cent of rice powder was used.

T3B1R3 – Dessert prepared by using 4.5 per cent of milk fat and 5 per cent of bottle gourd and 6 per cent of rice powder was used.
T3B2R1 – Dessert prepared by using 4.5 per cent of milk fat and 10 per cent of bottle gourd and 2 per cent of rice powder was used.

T3B2R2 – Dessert prepared by using 4.5 per cent of milk fat and 10 per cent of bottle gourd and 4 per cent of rice powder was used.

T3B2R3 – Dessert prepared by using 4.5 per cent of milk fat and 10 per cent of bottle gourd and 6 per cent of rice powder was used.

The different samples of desserts in each replication were evaluated for moisture, fat, protein, carbohydrate, ash, total solids, organoleptic qualities like colour and appearance, consistency, flavour and taste, overall acceptability, and energy value.

Data obtained on these aspects were statistically analyzed by using factorial design and Critical difference (CD) techniques. The results obtained after the analysis of desserts and conclusion there from are as follows:

**Moisture content in milk based dessert**

Highest per cent moisture of 88.37 was recorded in T1B1R2 followed by T1B1R1 (83.91), T1B2R1 (83.11), T2B1R1 (82.46), T2B1R1 (82.04), T2B2R1 (81.71), T2B1R2 (81.61), T1B1R3 (81.44), T2B2R3 (81.37), T3B1R1 (80.68), T3B1R2 (80.33), T3B2R1 (80.02), T1B2R3 (79.94), T2B1R3 (79.67), T2B2R3 (79.67), T3B2R1 (79.02), T3B1R3 (78.47), and T3B2R3 (75.64). In most of the treatment combinations moisture content differed significantly.

On comparison the mean values of levels of milk against the critical difference value, significant difference was observed between the mean values of T3 and T1 (4.109). The average value of T1 (83.137) was highest and it differs significantly from all other levels of milk. So it can be regarded as the best.

On comparison the mean values of levels of rice powder against the critical difference value, significant difference was observed between the mean values of R1 and R3 (2.839), R2 and R3 (2.984) and R2 and R1 (0.145). The average value of R2 (82.12)
was highest and it differs significantly from all other levels of rice powder. So it can be regarded as the best.

**Fat content in milk based dessert**

Highest per cent fat of 5.20 was recorded in T3B2R3 followed by T3B2R2 (5.15), T3B2R1 (5.08), T3B1R3 (5.03), T3B1R2 (4.99), T3B1R1 (4.92), T2B2R3 (3.82), T2B2R2 (3.72), T2B2R1 (3.66), T2B1R3 (3.59), T2B1R2 (3.55), T2B1R1 (3.52), T1B2R3 (2.28), T1B2R2 (2.23), T1B2R1 (2.20), T1B1R3 (2.10), T1B1R2 (2.01), and T1B1R1 (1.98). In most of the treatment combinations fat content differed significantly.

On comparison the mean values of levels of milk against the critical difference value, significant difference was observed between the mean values of T3 and T1 (2.929), T3 and T2 (1.419) and T2 and T1 (1.51). The average value of T3 (5.064) was highest and it differs significantly from all other levels of milk. So it can be regarded as the best.

On comparison the mean values of levels of bottle gourd against the critical difference value, significant difference was observed between the mean values of B2 and B1 (0.175). The average value of B2 (3.70) was highest and it differs significantly from all other levels of bottle gourd. So it can be regarded as the best.

On comparison the mean values of levels of rice powder against the critical difference value, significant difference was observed between the mean values of R3 and R1 (0.1061), R3 and R2 (0.611) and R2 and R1 (0.045). The average value of R3 (3.6705) was highest and it differs significantly from all other levels of rice powder. So it can be regarded as the best.

**Protein content in milk based dessert**

Highest per cent protein of 5.89 was recorded in T3B2R3 followed by T3B2R2 (5.09), T3B2R1 (4.99), T1B1R3 (4.95), T1B1R2 (4.93), T3B1R3 (4.89), T2B2R3 (4.82),
T3B1R2 (4.80), T2B1R3 (4.73), T1B1R1 (4.73), T1B2R1 (4.72), T2B2R2 (4.72), T3B1R1 (4.68), T1B2R3 (4.62), T2B1R2 (4.61), T1B2R2 (4.55), T2B2R1 (4.53), and T2B1R1 (4.47). In most of the treatment combinations protein content differed significantly.

On comparison the mean values of levels of milk against the critical difference value, significant difference was observed between the mean values of T3 and T1 (0.0416), T3 and T2 (0.413). The average value of T3 (5.062) was highest and it differs significantly from all other levels of milk. So it can be regarded as the best.

On comparison the mean values of levels of bottle gourd against the critical difference value, significant difference was observed between the mean values of B2 and B1 (0.161). The average value of B2 (4.866) was highest and it differs significantly from all other levels of bottle gourd. So it can be regarded as the best.

On comparison the mean values of levels of rice powder against the critical difference value, significant difference was observed between the mean values of R3 and R1 (0.294) and R3 and R2 (0.213). The average value of R3 (4.955) was highest and it differs significantly from all other levels of rice powder. So it can be regarded as the best.

On comparison the mean values of interaction between milk and bottle gourd against the critical difference value, significant difference was observed between the mean values of T3B2 and T1B2 (0.751), T3B2 and T1B1 (0.72), T3B2 and T2B2 (0.636), T3B2 and T1B1 (0.533), T3B1 and T1B2 (0.218). The average value of T3B2 (5.328) was highest and it differs significantly from all other levels of treatments. So it can be regarded as the best.

**Total carbohydrate content in milk based dessert**

Highest per cent total carbohydrates of 12.87 was recorded in T3B2R3 followed by T1B2R3 (12.32), T2B1R3 (11.39), T2B2R3 (11.24), T3B1R3 (10.74), T1B1R3 (10.57), T1B2R2 (10.52), T3B2R2 (9.88), T2B1R2 (9.70), T2B2R2 (9.48), T3B1R2
There was no significant difference in the different treatment combinations.

**Ash content in milk based dessert**

Highest per cent ash of 1.27 was recorded in T3B2R3 followed by T3B2R2 (1.19), T3B1R3 (1.12), T3B1R2 (1.02), T2B2R3 (0.94), T1B2R3 (0.93), T3B1R1 (0.92), T2B2R3 (0.92), T1B1R3 (0.91), T2B2R2 (0.89), T2B2R1 (0.86), T2B2R2 (0.83), T1B1R2 (0.83), T2B2R1 (0.81), T1B2R2 (0.78), T1B2R1 (0.73) and T1B1R1 (0.72). In most of the treatment combinations ash content differed significantly.

On comparison the mean values of levels of milk against the critical difference value, significant difference was observed between the mean values of T3 and T1 (0.2845), T3 and T2 (0.225) and T2 and T1 (0.0592). The average value of T3 (1.1011) was highest and it differs significantly from all other levels of milk. So it can be regarded as the best.

On comparison the mean values of levels of bottle gourd against the critical difference value, significant difference was observed between the mean values of B2 and B1 (0.074). The average value of B2 (0.968) was highest and it differs significantly from all other levels of bottle gourd. So it can be regarded as the best.

On comparison the mean values of levels of rice powder against the critical difference value, significant difference was observed between the mean values of R3 and R1 (0.1483), R3 and R2 (0.083) and R2 and R1 (0.065). The average value of R3 (1.0083) was highest and it differs significantly from all other levels of rice powder. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, significant difference was observed between the mean values of T3B2 and T1B2 (0.384), T1B2 T3B2 and T1B1 (0.374), T3B2 and T2B1 (0.345), T3B2 and
T2B2 (0.297), T3B2 and T3B1 (0.189), T3B1 and T1B2 (0.196), T3B1 and T1B1 (0.186), T3B1 and T2B1 (0.156), T3B1 and T2B2 (0.108), T2B2 and T1B2 (0.088), T2B2 and T1B1 (0.078), T2B2 and T1B1 (0.048), T2B1 and T1B2 (0.039), T2B1 and T1B1 (0.03), T1B1 and T1B2 (0.01). The average value of T3B2 (1.195) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, Significant difference was observed between the mean values of T3R3 and T1R1 (1.36), T3R3 and T1R2 (1.085), T3R3 and T2R1 (1.0), T3R3 and T2R2 (0.925), T3R3 and T1R3 (0.735), T3R3 and T1R2 (0.19), T3R2 and T1R1 (1.17), T3R2 and T1R2 (0.867), T3R2 and T2R1 (0.81), T3R2 and T2R2 (0.735), T3R2 and T1R3 (0.545), T3R2 and T2R3 (0.53), T3R2 and T3R1 (0.24), T3R1 and T1R1 (0.93), T3R1 and T1R2 (0.655), T3R1 and T2R1 (0.57), T3R1 and T2R2 (0.495), T3R1 and T1R3 (0.30), T3R1 and T2R3 (0.29), T2R3 and T1R1 (0.64), T2R3 and T1R2 (.365), T2R3 and T2R1 (0.28), T2R3 and T2R2 (0.205), T2R3 and T1R3 (0.015), T1R3 and T1R1 (0.625), T1R3 and T1R2 (0.35), T1R3 and T2R1 (0.265), T1R3 and T2R2 (0.19), T2R2 and T1R1 (0.435), T2R2 and T1R2 (0.16), T2R2 and T2R1 (0.075), T2R1 and T1R1 (0.36), T2R1 and T1R2 (0.085) and T1R2 and T1R1 (0.0275). The average value of T3R3 (3.51) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, Significant difference was observed between the mean values of B2R3 and B1R1 (0.228), B2R3 and B1R2 (0.158), B2R3 and B2R1 (0.148), B2R3 and B1R3 (0.081), B1R3 and B1R1 (0.147), B1R3 and B1R2 (0.077), B1R3 and B2R1 (0.067), B1R3 and B2R2 (0.017), B2R2 and B1R1 (0.13), B2R2 and B1R2 (0.06), B2R2 and B1R1 (0.05), B2R1 and B1R1 (0.08), B2R1 and B1R2 (0.01) and B1R2 and B1R1 (0.07). The average value of B2R3 (1.195) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.
**Total solids content in milk based dessert**

Highest per cent total solids of 24.57 were recorded in T3B2R3 followed by T3B1R3 (21.72), T3B2R2 (21.21), T2B1R3 (20.40), T2B2R3 (20.33), T1B2R3 (20.08), T3B2R1 (20.03), T3B1R3 (19.84), T3B1R1 (19.53), T1B1R3 (18.60), T2B2R2 (18.48), T2B1R2 (18.47), T1B2R2 (18.00), T2B2R1 (17.79), T2B1R1 (17.59), T1B2R1 (16.91), T1B1R2 (16.69) and T1B1R1 (16.10). In most of the treatment combinations total solids content differed significantly.

On comparison the mean values of levels of milk against the critical difference value, significant difference was observed between the mean values of T3 and T1 (3.42), T3 and T2 (2.31) and T2 and T1 (1.11). The average value of T3 (21.15) was highest and it differs significantly from all other levels of milk. So it can be regarded as the best.

On comparison the mean values of levels of bottle gourd against the critical difference value, significant difference was observed between the mean values of B2 and B1 (0.94). The average value of B2 (19.71) was highest and it differs significantly from all other levels of bottle gourd. So it can be regarded as the best.

On comparison the mean values of levels of rice powder against the critical difference value, significant difference was observed between the mean values of R3 and R1 (2.96), R3 and R2 (2.17) and T2 and T1 (0.79). The average value of R3 (20.95) was highest and it differs significantly from all other levels of rice powder. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, significant difference was observed between the mean values of T3B2 and T1B1 (4.806), T3B2 and T1B2 (3.605), T3B2 and T2B1 (3.114), T3B2 and T2B2 (3.06), T3B2 and T3B1 (1.57), T3B1 and T1B1 (3.232), T3B1 and T1B2 (2.031), T3B1 and T2B1 (1.54), T3B1 and T2B2 (1.492), T2B2 and T1B1 (1.74), T2B2 and T1B2 (0.539), T2B2 and T2B1 (0.48), T2B1 and T1B1 (1.692), T2B1 and T1B2 (0.491) and T2B1 and T1B1 (1.201). The average value of T3B2 (21.938) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.
On comparison the mean values of levels of treatment against the critical difference value, significant difference was observed between the mean values of T3R3 and T1R1 (19.92), T3R3 and T2R2 (17.41), T3R3 and T2R1 (16.36), T3R3 and T2R2 (14.0), T3R3 and T1R1 (11.40), T3R3 and T3R1 (10.1), T3R3 and T2R3 (8.34), T3R3 and T3R2 (7.87), T3R2 and T1R1 (12.05), T3R2 and T2R2 (9.54), T3R2 and T2R1 (8.49), T3R2 and T2R2 (6.13), T3R2 and T1R3 (3.53), T3R2 and T3R1 (2.23), T2R3 and T1R1 (11.58), T2R3 and T2R2 (9.07), T2R3 and T2R1 (8.02), T2R3 and T2R2 (5.66), T2R3 and T1R3 (3.06), T2R3 and T3R1 (1.76), T3R1 and T1R1 (9.82), T3R1 and T2R2 (7.31), T3R1 and T2R1 (6.26), T3R1 and T2R2 (3.9), T1R3 and T1R1 (8.52), T1R3 and T2R2 (6.0), T1R3 and T2R1 (4.95), T1R3 and T2R2 (2.59), T2R2 and T1R1 (5.925), T2R2 and T2R2 (3.41), T2R2 and T2R1 (2.36), T2R1 and T1R1 (3.56) and T2R1 and T1R1 (2.51). The average value of T3R3 (69.44) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, significant difference was observed between the mean values of B2R3 and B1R1 (3.92), B2R3 and B2R1 (3.41), B2R3 and B1R2 (3.33), B2R3 and B2R2 (2.43), B2R3 and B1R3 (1.42), B1R3 and B1R1 (2.50), B1R3 and B2R1 (1.99), B1R3 and B1R2 (1.90), B1R3 and B2R2 (1.01), B2R2 and B1R1 (1.49), B2R2 and B2R1 (0.98), B2R2 and B1R2 (0.89), B1R2 and B1R1 (0.59) and B1R2 and B2R1 (0.089) and B1R2 and B1R1 (0.504). The average value of B2R3 (21.66) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

**Color and appearance score of milk based dessert**

Highest color and appearance score of desserts sample 8.40 was recorded in T3B2R2 followed by T3B1R2 (8.20), T2B2R2 (8.20), T1B1R2 (8.10), T1B2R2 (8.10), T2B1R2 (8.03), T1B2R3 (8.00), T2B2R3 (7.70), T3B1R3 (7.63), T1B1R1 (7.16), T2B1R1 (7.06), T2B1R2 (7.00), T2B1R3 (6.90), T3B1R1 (6.66), T3B2R3 (6.63), T1B2R1 (6.60), T3B2R1 (6.36) and T1B1R1 (6.26). The difference was found to be significant in most of the treatment combinations.
On comparison the mean values of levels of milk against the critical difference value, Significant difference was observed between the mean values of T1 and T3 (0.178), T2 and T3 (0.039) and T1 and T2 (0.139). The average value of T1 (7.49) was highest and it differs significantly from all other levels of milk. So it can be regarded as the best.

On comparison the mean values of different treatments against the critical difference value, significant difference was observed between B1 and B2 (0.1). The average value of B1 (7.4) was highest and it differs significantly from all other levels of bottle gourd. So it can be regarded as the best.

On comparison the mean values of levels of rice powder against the critical difference value, Significant difference was observed between the mean values of R3 and R1 (0.63), R2 and R3 (0.85) and R2 and R1 (1.45). The average value of R2 (8.16) was highest and it differs significantly from all other levels of rice powder. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, Significant difference was observed between the mean values of T1B2 and T3B2 (0.43), T1B2 and T2B1 (0.244), T1B2 and T2B2 (0.178), T1B2 and T1B1 (0.144), T1B2 and T3B1 (0.066), T3B1 and T3B2 (0.367), T3B1 and T2B1 (0.178), T3B1 and T2B2 (0.112), T1B1 and T3B2 (0.289), T2B2 and T3B2 (0.255) and T2B1 and T3B2 (0.189). The average value of T1B2 (7.566) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, Significant difference was observed between the mean values of T3R2 and T3R1 (5.35), T3R2 and T2R1 (4.9), T3R2 and T1R1 (4.25), T3R2 and T3R3 (3.5), T3R2 and T2R3 (3.0), T3R2 and T1R3 (0.6), T3R2 and T2R2 (0.6), T2R2 and T3R1 (4.75), T2R2 and T2R1 (4.3), T2R2 and T1R1 (3.65), T2R2 and T3R3 (2.9), T2R2 and T2R3 (2.4), T2R2 and T1R3 (1.8), T1R2 and T3R1 (4.75), T1R2 and T2R1 (4.3), T1R2 and T3R3 (2.9), T1R2 and T2R3 (2.4), T1R2 and T1R3 (1.8), T1R3 and T3R1 (2.95), T1R3 and T2R1 (2.5), T1R3 and T1R1 (1.85), T1R3
and T3R3 (1.1), T1R3 and T2R3 (0.6), T2R3 and T3R1 (2.35), T2R3 and T2R1 (1.9),
T2R3 and T1R1 (1.25), T2R3 and T3R3 (0.5), T3R3 and T3R1 (1.85), T3R3 and
T2R1 (1.4), T3R3 and T1R1 (0.75), T1R1 and T3R1 (1.1), T1R1 and T2R1 (0.65) and
T2R1 and T3R1 (0.45). The average value of T3R2 (24.9) was highest and it differs
significantly from all other levels of treatment. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference
value, Significant difference was observed between the mean values of B2R2 and
B1R1 (1.26), B2R2 and B1R3 (1.06), B2R2 and B2R3 (0.79), B2R2 and B1R2 (0.133),
B1R2 and B2R1 (1.68), B1R2 and B1R1 (1.13), B1R2 and B1R3 (0.93), B1R2 and
B2R3 (0.66), B2R3 and B2R1 (0.029), B2R3 and B1R1 (0.47), B2R3 and B1R3 (0.27),
B1R3 and B2R1 (0.75), B1R3 and B1R1 (0.204) and B1R1 and B2R1 (0.555). The average value of B2R3 (21.66) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

**Consistency score of milk based dessert**

Highest consistency score of desserts sample 7.86 was recorded in T3B2R2 and
T2B2R2 followed by T3B1R2 (7.80), T2B1R2 (7.70), T1B1R2 (7.63), T1B2R2
(7.50), T1B1R1 (7.40), T1B1R3 (7.30), T2B1R1 (7.20), T2B2R3 (6.86), T3B1R1
(6.70), T1B2R1 (6.70), T2B2R3 (6.50), T2B2R1 (6.30), T3B1R3 (6.30), T1B2R3
(6.10), T3B2R3 (6.10) and T3B2R1 (5.86). The difference was found to be significant
in most of the treatment combinations.

On comparison the mean values of levels of milk against the critical difference value,
Significant difference was observed between the mean values of T1 and T3 (0.333)
and T2 and T3 (0.03). The average value of T1 (7.105) was highest and it differs
significantly from all other levels of milk. So it can be regarded as the best.

On comparison the mean values of levels of bottle gourd against the critical difference
value, significant difference was observed between the mean values of B1 and B2
(0.456). The average value of B1 (7.211) was highest and it differs significantly from
all other levels of bottle gourd. So it can be regarded as the best.

On comparison the mean values of levels of rice powder against the critical difference value, Significant difference was observed between the mean values of R2 and R1 (1.03) and R2 and R3 (1.2). The average value of R2 (7.72) was highest and it differs significantly from all other levels of rice powder. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, Significant difference was observed between the mean values of T3R2 and T3R3 (4.9), T3R2 and T3R1 (4.6), T3R2 and T2R3 (3.45), T3R2 and T1R3 (3.4), T3R2 and T2R1 (3.25), T3R2 and T1R1 (2.35), T3R2 and T1R2 (0.8), T2R2 and T3R3 (4.75), T2R2 and T3R1 (4.5), T2R2 and T2R3 (3.3), T2R2 and T1R3 (3.25), T2R2 and T2R1 (3.1), T2R2 and T1R1 (2.2), T2R2 and T1R2 (0.65), T1R2 and T3R3 (4.1), T1R2 and T3R1 (3.85), T1R2 and T2R3 (2.65), T1R2 and T2R3 (2.6), T1R2 and T2R1 (2.45), T1R2 and T1R1 (1.55), T1R1 and T3R3 (2.55), T1R1 and T3R1 (2.3), T1R1 and T2R3 (1.1), T1R1 and T1R3 (1.05), T1R1 and T2R1 (0.9), T2R1 and T3R3 (1.65), T2R1 and T3R1 (1.4), T1R3 and T3R3 (1.5), T1R3 and T3R1 (1.25), T2R3 and T3R3 (1.45), T2R3 and T3R1 (1.2) and T3R1 and T3R3 (0.25) The average value of T3R2 (23.5) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, Significant difference was observed between the mean values of B2R2 and B2R3 (1.511), B2R2 and B2R1 (1.456), B2R2 and B1R3 (0.922), B2R2 and B1R1 (0.644), B1R2 and B2R3 (1.478), B1R2 and B2R1 (1.423), B1R2 and B1R3 (0.889), B1R2 and B1R3 (0.611), B1R1 and B2R3 (0.867), B1R1 and B2R1 (0.812), B1R1 and B1R3 (0.278), B2R3 and B2R3 (0.589), B1R3 and B2R1 (0.534) and B2R1 and B2R3 (0.055). The average value of B2R3 (21.66) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

**Flavour and taste score of milk based dessert**

Highest flavour and taste score of desserts sample 8.20 was recorded in T1B1R2 followed by T3B2R2 (8.13), T3B1R2 (8.1), T2B1R2 (7.90), T1B2R2 (7.60), T2B2R2
On comparison the mean values of levels of rice powder against the critical difference value, Significant difference was observed between the mean values of R2 and R1 (0.99) and R2 and R3 (1.05). The average value of R2 (7.90) was highest and it differs significantly from all other levels of rice powder. So it can be regarded as the best.

**Overall acceptability score of milk based dessert**

Highest overall acceptability score of desserts sample 8.10 was recorded in T3B1R2 followed by T3B2R2 (8.00), T1B1R2 (7.93), T2B2R2 (7.90), T1B1R2 (7.80), T2B1R2 (7.80), T1B1R1 (7.10), T2B1R1 (7.03), T1B1R3 (7.0), T1B2R3 (6.90), T2B1R3 (6.90), T2B2R3 (6.80), T3B1R3 (6.76), T3B1R1 (6.63), T1B2R1 (6.60), T3B2R3 (6.50), T2B2R1 (6.30) and T3B2R1 (6.26). The difference was found to be significant in most of the treatment combinations.

On comparison the mean values of levels of milk against the critical difference value, Significant difference was observed between the mean values of T1 and T3 (0.04) and T1 and T2 (0.14). The average value of T1 (7.22) was highest and it differs significantly from all other levels of milk. So it can be regarded as the best.

On comparison the mean values of levels of bottle gourd against the critical difference value, significant difference was observed between the mean values of B1 and B2 (0.22). The average value of B1 (7.22) was highest and it differs significantly from all other levels of bottle gourd. So it can be regarded as the best.

On comparison the mean values of levels of rice powder against the critical difference value, Significant difference was observed between the mean values of R2 and R1 (1.27), R2 and R3 (1.15) and R3 and R1 (0.12). The average value of R2 (7.79) was highest and it differs significantly from all other levels of rice powder. So it can be
regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, Significant difference was observed between the mean values of T3R2 and T3R1 (4.8), T3R2 and T3R3 (4.25), T3R2 and T2R1 (3.9), T3R2 and T1R1 (3.6), T3R2 and T1R3 (3.3), T3R2 and T2R2 (0.6), T3R2 and T1R2 (0.55), T1R2 and T3R1 (4.25), T1R2 and T3R3 (3.7), T1R2 and T2R1 (3.6), T1R2 and T2R3 (3.35), T1R2 and T1R1 (3.05), T1R2 and T1R3 (2.75), T2R2 and T3R2 (4.2), T2R2 and T3R3 (3.65), T2R2 and T2R1 (3.55), T2R2 and T2R3 (3.3), T2R2 and T1R1 (3.0), T2R2 and T1R3 (2.7), T1R3 and T3R1 (1.5), T1R3 and T3R3 (0.95), T1R3 and T2R1 (0.85), T1R3 and T2R3 (0.6), T1R3 and T1R1 (0.3), T2R3 and T3R1 (0.9), T2R3 and T3R3 (0.35), T2R3 and T2R1 (0.25), T2R1 and T3R1 (0.65) and T3R3 and T3R1 (0.55). The average value of T3R2 (24.15) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

On comparison the mean values of levels of treatment against the critical difference value, Significant difference was observed between the mean values of B1R2 and B2R1 (1.556), B1R2 and B2R3 (1.211), B1R2 and B1R3 (1.122), B2R2 and B2R1 (1.512), B2R2 and B2R3 (1.167), B2R2 and B1R1 (0.978), B1R1 and B2R1 (0.534), B1R1 and B2R3 (0.189), B1R3 and B2R1 (0.434) and B2R3 and B2R1 (0.345). The average value of B2R3 (7.944) was highest and it differs significantly from all other levels of treatment. So it can be regarded as the best.

**Energy value of desserts**

The maximum Energy value of desserts sample 118.21 kcal/100gm was recorded in T3B2R3 treatment combination.

**Cost of product**

The cost of production of milk based dessert samples T1B1R1 (8.18) was much lesser than other samples.
Conclusion
Thus it can be concluded that on the basis of chemical analysis T3B2R3 (milk 4.5%, 10% bottle gourd and 6% rice powder) has maximum score for fat, protein, total carbohydrate, ash and total solid but lower score for moisture but as far as product acceptability is concern on the basis of organoleptic score, treatment combination of T3B2R2 (milk 4.5%, 10% bottle gourd and 4% rice powder) scored the highest value for most of the parameter such as color and appearance and consistency but lower score for flavour and taste. Treatment combination of T1B1R2 (milk 4.5%, bottle gourd 5% and rice powder 4%) scored the highest value for the flavour and taste but lower score in color and appearance and consistency. Treatment combination of T3B1R2 (milk 4.5%, bottle gourd 5% and 4% rice powder) scored the highest value for overall acceptability. The energy value of dessert T3B2R3 (milk 4.5%, bottle gourd 10% and rice powder 6%) scored the highest value. The cost of milk based dessert sample T1B1R1 (milk 1.5%, 5% bottle gourd, 2% rice powder) was much lesser than other treatments.

RECOMMENDATION

These findings will be helpful from therapeutic point of view for people suffering from cardio vascular disease, protein energy malnutrition, constipation and other digestive disorders like flatulence and piles because desserts contain dietary fiber and it contains the zero amount of cholesterol level and zero transfatty acids and fiber helps to utilized the insulin.
The milk based desserts are also beneficial for economically weaker section people as far as its cost is concern.
Further investigation of milk based dessert can be taken under the studies on the shelf life of the product.