Hydrolyzed vegetable protein is a natural flavor and taste enhancer used in a wide variety of processed food products. The flavor enhancers and taste enhancers are food additives commonly added to various food preparations to enhance the natural taste of the food products. The main purpose of incorporating hydrolyzed vegetable protein in most of the food products is because of its meaty and roasted flavor which is dark brown in color and appearance. HVP is produced by boiling cereals and legumes such as corn, wheat, rice bran and ragi in an acid medium and then neutralizing the solution with sodium hydroxide. It contains good amount of protein compared to the other taste enhancers and recommended usage level of HVP in products is two grams. Four recipes such as kara bhoondi, bajji, gobi 65 and cutlet incorporated with and without hydrolyzed vegetable protein were prepared and standardized to find the acceptability of the recipes among young adults. Fifteen subjects between the age group of 19-22 years were selected as panel members for testing the acceptability of the products using composite scoring cards in terms of color and appearance, texture, flavor and taste. Three trials were conducted to check the acceptability of the products. All the four recipes incorporated with HVP had high acceptance among young adults compared to recipes prepared without HVP. From the present study it can be concluded that the overall acceptability of recipes prepared with HVP was superior to recipes prepared without HVP. So it can be used as a natural taste enhancer alternative to the commercial taste enhancers.

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All the four recipes incorporated with and without hydrolyzed vegetable protein such as kara bhoondi, bajji, gobi 65 and cutlet were evaluated in terms of color and appearance, texture, flavor and taste on the basis of a composite score card. The score cards, which are an essential part of the sensory evaluation process, were designed carefully for each of the product so that it permitted the judges to transmit their assessment of the sample accurately on the paper. The score cards can act as a guide for the evaluation process. The score cards were clearly printed.

The experimental data obtained were tabulated and analyzed statistically by employing statistical test namely paired t test, standard deviation and mean.

Figure- 1 Selected recipes for acceptability test with and without HVP

Kara bhoondi - Cutlet -
Bajji - Gobi 65 -

RESULTS AND DISCUSSION:
Acceptability of Kara bhoondi, bajji, french fries, gobi 65 and cutlet incorporated with and without hydrolyzed vegetable protein.

Figure 2
Comparison of the acceptability of Kara bhoondi incorporated with and without HVP

Figure 2 depicts the comparison of the mean values of kara bhoondi incorporated with and without HVP for color and appearance, texture, flavor and taste indicates that there was a significant difference at 1% level. The mean overall acceptability scores of kara bhoondi incorporated with and without HVP were found to be 2.86 and 1.78 with a t value of 18.65, taking into account all the sensory attributes. Based on the criterion for scoring of overall acceptability, it was evident that the acceptability of kara bhoondi incorporated with HVP was found to be better compared to the kara bhoondi without HVP.

Figure 3
Comparison of the acceptability of bajji incorporated with and without HVP

Figure 3 depicts the comparison of the mean values of bajji incorporated with and without HVP for color and appearance, texture, flavor and taste indicates that there was a significant difference at 1% level. The mean scores of bajji incorporated with and without HVP were found to be 2.85 and 1.72 with a t value of 24.33, taking into account all the sensory attributes. Based on the criterion for scoring of overall acceptability, it was evident that the acceptability of bajji incorporated with HVP was found to be good compared to the bajji without HVP.

Figure 4
Comparison of the acceptability of gobi 65 incorporated with and without HVP

Figure 4 depicts comparison of the mean values of gobi 65 incorporated with and without HVP for color and appearance, texture, flavor and taste indicates that there was a significant difference at 1% level. The mean overall acceptability scores of gobi 65 incorporated with and without HVP were found to be 2.86 and 1.71 with a t value of 22.87, taking into account all the sensory attributes. Based on the criterion for scoring of overall acceptability, it was evident that the acceptability of gobi 65 incorporated with HVP was found to be good compared to the gobi 65 without HVP.

Figure 5
Comparison of the acceptability of cutlet incorporated with and without HVP

Figure 5 depicts the comparison of the mean values of cutlet incorporated with and without HVP for color and appearance, texture, flavor and taste indicates that there was a significant difference at 1% level. The mean scores of cutlet incorporated with and without HVP were found to be 2.86 and 1.73, with a t value of 24.33, taking into account all the sensory attributes. Based on the criterion for scoring of overall acceptability, it was evident that the acceptability of cutlet incorporated with HVP was found to be good compared to the cutlet without HVP.

CONCLUSION
The present and newly derived knowledge on the use of HVP as a food material along with the other ingredients, not only produces products that has good taste or flavor but provides better nutritional quality along with necessary attributes for consumer acceptance. All the four recipes incorporated with HVP had a better acceptability compared to recipes prepared without HVP. From the present study it can be concluded that HVP is a good source of protein and also the overall acceptability of recipes prepared with HVP was better. So it can be used as a natural taste enhancer alternative to the commercial taste enhancers.