Specification for Near Infrared Analyser (NIR)

1. **Application** : The NIR Based Feed Analyser should be capable of performing multi-component analysis in feed and feed ingredients measuring parameters such as moisture, protein, starch, crude fiber, fat/oil, amino acids,colour etc.
2. It should test samples of feed and ingredients presented in form of whole grains, pellets, slurries, liquids, pastes, meals, powders etc. The instrument should also be able to test heterogeneous samples without any sample grinding required. Test should be non-destructive (No sample grinding should be required)
3. The instrument should be based on NIR reflectance/transreflectance method .
4. The instrument should use monochromator technology.
5. Instrument should be IP 65 rated and temperature stabilized for consistent results. Completely Dust and water protected.
6. Instrument should use vibration resistant technology.
7. The analysis time should not be more than 1 minute.
8. Detectors of InGaAs or silicon or lead sulphide type.
9. Analysis should be done in a closed environment to nullify the effect of stray light .
10. Sample should not be exposed to environment during analysis to avoid effect of environmental moisture in sample.
11. It should support NIR wavelength range of 400-2500 nm with wavelength accuracy better than 0.05 nm.
12. It should have the ability to test samples of different sizes without affecting the accuracy.
13. Non destructive test should be possible.
14. It should have an internal or external computer with up to 30 GB memory storage together with operating system and external communication ports .It should be loaded with proper licensed antivirus software .Printer to print the results should be provided.