Assignment:

NAME: USMAN ZULIAT YAKUB

MATRIC NO: 16/SCI05/008

COURSE TITLE: MICROBIOGICAL QUALITY ASSURANCE

QUESTION:

As a microbiologist employed in Nigeria breweries PLC, explain how you will employ your knowledge of this course in the quality control and quality assurance of products developed for consumers

MICROBIAL QUALITY ASURANCE IN BEVERAGE COMPANY

Microbiological quality assurance is the total process whereby the quality of laboratory reports can be guaranteed. The term quality control covers that part of quality assurance which primarily concerns the control of errors in the performance of test and verification of test results. All materials, equipment and procedures must be adequately controlled. Each company must have a standard operating procedure. Pre-natal, analytical, and post analytical stages of microbiological procedures should be incorporated in standard operating system, all work place should be dust free air conditioned environment, environmental conditions should be monitored, supervised and technical personnel should be well qualified, and quality assurance should also participate in in external and internal assurance scheme. Microbial quality assurance is the most important point for successful and effective enterprise resource planning and companies. It aims at detecting and removing defects from the system and quality assurance is a plan and systematic approach to ensure the appropriate planning of the company. A microbiologist in a brewery company is employed to play a technical role which is important for the production of high quality wine, beer, or spirits they are trained to use variety of scientific and analytical techniques to monitor and study microbes including bacteria, fungi, and viruses the most common contaminants of finished beer are brevis and *Pediococcus damnosus* they are the greatest threat to beers.

QUALITY ASSURANCE

This aims at preventing mistakes and defects in manufactured products and avoiding problems when delivering products or services to customer in which ISO (9000) defines as part of quality management focused on providing confidence that quality requirements will be fulfilled. Quality assurance requires collaboration between the staffs and the microbiologist and clear guidelines should be provided on the use and value of specific microbiological investigations. Environmental conditions should be monitored supervisory and technical personnel should be well qualified.

My duties as a microbiologist in Brewery Company are:

* To manage interactions with external suppliers (cleaning contractors) and internal stakeholders (brewing, packaging, engineering, etc.) in relation to implementing and optimizing hygiene standards and work practices to prevent microbiological contamination within the brewery.
* Applying problem solving and decision making techniques and practises and facilitate team problem solving e.g. lead the hygiene steering committee comprising of team leaders and department heads to assess and analyse hygiene practices and identify alternative for resolution.
* Applying a holistic understanding of good manufacturing practise (GMP) practices critical to brewing and packaging processes to prevent microbiological infections
* Applying appropriate reporting to ensure brewery personnel (including operators and head of department) are aware of microbiological performance compliance within brewery.
* Liaise with functions such as safety to assess possible alignment of operating practices that are both safe and hygienic.
* Conducting training and assessments in the workplace to improve overall compliance to microbiological standards and work practices
* Audit microbiological laboratory to ensure compliance to hub and global microbiological methodology and frequencies
* Identifying opportunities for improvement in technology through the implementation and tracking of quality assurance campus projects that could result in improvement of microbiological compliance.
* Providing leadership and technical expertise to optimize microbiological work practices through problem solving.
* Best operating practices and interactions involving managing a formalised system with which to engage with supplier to enhance hygiene performance in brewery.
* Governance for hygiene will also be a key responsibility for this individual supplier partnering program in a company.

The following attributes must be followed as a microbiologist in a brewery company

* Good knowledge of food safety and micro laboratory systems, processes and analysed experience in the application of problem solving techniques and statistics
* Good understanding of GMP standards, HACCP, and CIP requirements
* Proven knowledge and experience in integrating and facilitating a multidisciplinary group of skills, specialists and functions
* Good verbal and written communication skills
* Good auditing skills information systems knowledge
* Analytical ability
* Communication skills both verbal and written
* Problem solving ability and ability to work in teams.

Successful business of any area quality is the most important factor in those areas, companies must consider about their high quality because it cannot be correcting errors after shipping the products to customer not only that correction after shipping consumes more money and affect for company credibility as well organizations cannot lose customers due to those kind of problems, quality control here can be used to detect and remove defects quality has emphasized as main strategy for every industry efficient quality management it is not just about error detecting, control and prevention it speeds reporting cycles provides deeper traceability and insight into the numbers and it also boost management confidence in financial statement ,budgets, and performance scorecards.

Data mining procedures

* Data strategy: to overcome data issues companies have to implement formal data quality programs so business critical data elements need special care at the start of the data quality management this data quality management should focus to cost benefit process
* Error detection: As a microbiologist the data quality must be checked and reports must be designed on the technical side and users must be instructed on how to use them
* Error correction: specialised staff must be trained to use the system and handle the data quality problems and take right decisions.