



CERTIFICATE COURSE IN PHARMACEUTICAL SCIENCES

Course Code: RPS/JTC03

About Course:

Pharmacy is related to health sciences. It is the profession responsible for the preparation, dispensing and appropriate use of medication and which provides services to achieve optimal therapeutic outcomes. In detail, they are concerned with production of pharmaceutical products, development of the methods or processes of production and quality control. Those in research concern themselves with synthesis of new drugs (what is commonly referred to as molecules), new processes, clinical testing of the effects of such drugs on animals and humans, and obtaining the required License from the drug control authorities. A pharmacist is required to explain the mode and precautions regarding the use of medicines dispensed in a hospital pharmacy, prepare special formulations normally not available in the market, assist the physician in rendering necessary information about various drugs, their contra-indications, incompatibility etc.

SALIENT FEATURES:

- This Course is easy to learn and comprehensive. It teaches not only the basic concept related to the subject, but also covers advanced topics as well.
- This course will help participants to understand and implement quality assurance and quality control for the particular operation during drug development.
- The course also covers useful concepts like Six Sigma and its application in the Pharma industry.
- The course will help in better understanding of drug development process and its importance in the Pharma Industry.

Career prospects

- Within the pharmaceutical industry you might be involved in activities relating to the development, formulation, production or marketing of new drugs for clinical use.
- Drug control administration and armed forces also offer a wide range of opportunities to pharmacists. Appointments are also available in sale promotion work as medical representatives..
- M.pharm or Ph.D holders are normally absorbed in research work, to develop new useful drugs, in laboratories and in production work in pharmaceutical industry and analyzing them for purity and strength.
- Pharmacist may also take up teaching as a profession as lectures in pharmacy colleges and universities.

- There is also employment opportunities within the food and cosmetic industries or within any other industry that requires the assurance that new products are as safe and effective as possible.
- In government departments, a pharmacist maintains proper records according to various Government acts governing the profession of pharmacy.

MODULE 1:- Quality Control & quality assurance

- Assay of ascorbic acid, calcium carbonate, calcium citrate.
- Appearance of solution
- Tablet hardness test & its calibration
- Clean room concept & ISO standards
- Water content by karl fisher reagent
- List of SOP's in QC & Adverse reaction in pharmaceutical dosages.
- Limit test of potassium & sulphate & overview of ISO 14644 clean room classification
- Disintegration & Dissolution test
- Determination of TOC in purified water, nitrogen & iodine value.
- Preparation of buffer solutions, indicator solutions & standard solutions.
- Determine BOD & COD in waste water
- GMP & GLP
- Chromatography techniques
- Performance qualification protocol for water for injection system
- Guideline for preparation of SMF & VMP.

Module 2: Pharma microbiology

- Assay of Vit. B7 in pharmaceuticals by biological method
- Assay of B9 by microbiological method & autoclave validation in pharmaceuticals.
- BET or LAL test validation and methods.
- Destruction of microbiological waste & disinfectant efficiency test.
- Effectiveness of antimicrobial preservatives in pharmaceuticals test
- Endotoxin detection test by various methods.
- Maintenance of microbial cultures & growth promotion test
- Biofilm and its formation in water system
- Chlorination and de-chlorination of water system.
- GLP & GMP
- Determination of BOD & COD in water system

Module 3: Production

- Dry granulation process
- Film coating process
- GMP Inspection in production
- Granulation and particle bonding mechanism of granulation
- Modify release coating in pharmaceuticals
- Removal of pathogenic bacteria in water systems
- Sterile pharmaceutical in dosage form
- Sugar coating process & tablet coating problems and solutions
- USFDA Guideline process
- GMP Audit check list

Module 4: SOP & VALIDATION

- SOP for analysis of water
- SOP for UV-Visible spectrophotometer
- SOP for LAL test
- SOP for bacteriological incubator & antimicrobial effective test
- SOP for karl fisher apparatus and tablet hardness test
- Risk of TSE & BSE in pharma products
- Disinfectant solutions and their mode of action
- Hold time study in production
- 3 Sigma formula for trend analysis limits
- Shelf life estimation of products
- Difference between incidence and deviation

Module 5: Herbal drug formulation

- Phytochemical analysis of various plant products
- Antimicrobial testing of various herbal compounds
- MIC/Lethal dose assay of different drugs
- Comparative analysis between various antibiotics and herbal compounds
- Application of herbal drug formulation in pharmaceuticals

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