

दूरध्वनी क्रमांक.  
०२०-२५६२१४४०  
०२०-२५६२१४४१

सावित्रीबाई फुले पुणे विद्यापीठ  
(पूर्वीचे पुणे विद्यापीठ)



परीक्षा समन्वय विभाग  
गणेशखिंड,  
पुणे-४११००७  
Website : www.unipune.ac.in  
e-mail : coe@unipune.ac.in

परीक्षा / समन्वय / ३७१

दिनांक : २३/०९/२०२०

प्रति

मा. प्राचार्य/संचालक,  
सर्व संलग्नित औषधनिर्माण महाविद्यालये व मान्यताप्राप्त संस्था.  
पुणे, अहमदनगर व नाशिक जिल्हा

विषय : औषधनिर्माण अभ्यासक्रमाच्या अंतिम वर्षातील अंतिम सत्राच्या  
(बी. फार्मसी सत्र ८) परीक्षेच्या अभ्यासक्रमाबाबत..

महोदय/ महोदया,

मा. सर्वोच्च न्यायालयाने दि. २८ ऑगस्ट, २०२० रोजी दिलेल्या आदेशानुसार व  
मा. कुलपती तथा राज्यपाल यांच्या व महाराष्ट्र शासनाने दि. ०३ सप्टेंबर, २०२० रोजी  
सूचित केल्याप्रमाणे अंतिम वर्षातील अंतिम सत्राच्या औषधनिर्माण अभ्यासक्रमामधील  
विद्यार्थ्यांच्या नियमित व अनुषेशित परीक्षांचे आयोजन करण्यात येत आहे.

अंतिम वर्षातील अंतिम सत्राच्या परीक्षेसाठी औषधनिर्माण अभ्यासक्रम सोबत  
जोडलेला आहे. सदर अभ्यासक्रम आपण आपल्या महाविद्यालयातील औषधनिर्माण  
अभ्यासक्रमासाठी अंतिम वर्षातील अंतिम सत्राच्या नियमित परीक्षार्थी विद्यार्थ्यांच्या  
निदर्शनास आणून द्यावा ही विनंती.

कळावे,

  
(महेश काकडे)

संचालक,  
परीक्षा व मूल्यमापन मंडळ



**SYLLABI FOR FINAL YEAR (SEM VIII) EXAMINATION OCTOBER, 2020**

**4.8.1T ADVANCED DRUG DELIVERY SYSTEM**

<b>Section-I</b>		
<b>Sr.No</b>	<b>Topic no.</b>	<b>Topic</b>
<b>1</b>	<b>3</b>	<p><b>Novel Drug Delivery Systems:</b>                      Introduction, formulation, merits, demerits, application and evaluation of following in brief                      Mucosal drug delivery system, Transdermal drug delivery system(TDDS), Parenteral implants, Ophthalmic inserts, Intrauterine drug delivery system (IUDs), Liposomes, Probiotics and Prebiotics.                      Gastro retentive drug delivery system,                      Osmotic drug delivery system,                      Colon targeted drug delivery system,                      Externally modulated devices and delivery; iontophoresis and sonophoresis</p>
<b>Section-II</b>		
<b>2</b>	<b>5.</b>	<p><b>Microencapsulation:</b>                      Introduction, concept of microencapsulation, merits, demerits and application. Types of Microencapsulation: chemical encapsulation processes, complex, coacervation, polymer-polymer incompatibility, interfacial</p>



#### 4.8.2 T COSMETIC SCIENCE

<b>Section-I</b>		
Sr.No	Topic no.	Topic
1	1.	<b>Fundamentals and Scope of Cosmetic Science</b> a. Definition of cosmetics, classification of cosmetics b. Additives in Cosmetics: emollients, waxes, oils, humectants, preservatives, binders, surfactants, colors and perfumes. e. Packaging, Cleanliness, Hygiene and Microbial control in Cosmetic manufacturing f. Perfumes- Source, classification, blending and fixation
2	2A)	Formulation, manufacturing & evaluation of following cosmetics Skin care Products a. Cosmetics for skin: Moisturizing cream, cleansing cream, cold cream, vanishing cream, anti-ageing and anti-wrinkle, antiperspirants, deodorants, b. Powder cosmetics: Heavy, medium and light powders, compacts c. Face mask and packs d. Face make up: Face powder, compact powders, Cake makeup, Liquid
3		a. Colored makeup preparations: Lipsticks, Lip balm, Rouge b. Suntan & sunscreen preparations.
4	B)	a. Shaving preparations: Formulation of wet shaving dry shaving and after shave preparations. b. Bath preparations: Bath oils, soaps, foams and after bath preparations.
<b>Section-II</b>		
5	C)	Hair products: Shampoos
6	E)	Dental care cosmetics: Dentifrices as powders, paste, gels and Mouth washes
7	G)	Baby cosmetics: Baby powders, oils, lotions, shampoos and soaps.



### 4.8.3 T PHARMACEUTICAL ANALYSIS –VI

<b>Section-I</b>		
<b>Sr.No</b>	<b>Topic no.</b>	<b>Topic</b>
<b>1</b>	1.	Nuclear Magnetic Resonance Spectroscopy
<b>Section-II</b>		
<b>2</b>	5.	Flash Chromatography
<b>3</b>	6.	Super Critical Fluid Chromatography



#### 4.8.4 T MEDICINAL CHEMISTRY –IV

Sr.No	Topic no.	Topic
<b>Section-I</b>		
1	1.1	Antihistaminic agents and Proton pump inhibitors
2	1.3	NSAIDs, analgesics & antipyretics
<b>Section-II</b>		
3	1.7	Insulin & Oral Anti-hyperglycemic drugs
4	1.8	Diagnostic Agents



#### 4.8.5 T PHARMACOLOGY- V, (Including Biostatistics)

Sr. No	Title
<b>SECTION - I</b>	
01	<b>Drug interactions:</b> Introduction to Drug-Drug, Drug-food interaction. Classification of Drug- Drug interaction. Basic concepts of mechanisms of drug-drug interactions with suitable examples. <b>Adverse Drug reactions (ADR):</b> Epidemiology, Classification and Risk factors
02	<b>Drug Safety and Pharmacovigilance (PV)</b> Introduction, Terminologies, Global Perspective of PV and ADR monitoring and reporting, Global Adverse events reporting system and reporting forms
<b>SECTION - II</b>	
05	<b>Clinical Trials:</b> History, important terminologies, Types of clinical research, Phases of clinical research, role of clinical trial in new drug developments
06	<b>Ethical issues in clinical trials-</b> Principle of regulatory requirements, responsible conduct, supervision of ethics, (Informed Consent, Institutional Review Board (Role responsibility, members and auditing), The Nuremberg Code, The Declaration of Helsinki, The Belmont Report



#### 4.8.6 T NATURAL PRODUCTS: COMMERCE, INDUSTRY & REGULATIONS

<b>Section I</b>	
<b>No</b>	<b>Topics</b>
<b>02</b>	<p><b>Herbal Drug Industry:</b>                      OTC and TSM products                      Plant based industries and institutions working on medicinal and aromatic plants in India.                      Industry oriented R&amp;D Institutes</p>
<b>03</b>	<p><b>Regulation &amp; Patenting:</b>  <b>a. Regulations</b>                      i. . Schedule T-GMP practices of Indian system of Medicine                      iii. Components of GMP and its objectives                      iv. Infrastructural requirements-working space, storage area, machinery and equipments, SOP, Health &amp; Hygiene  <b>b. Herbal Drug Patenting</b>                      i. Intellectual Property Rights                      ii. Definition and Introduction of Patent                      iv. Biopyracy                      v. Trademark &amp; Copyright</p>
<b>Section -II</b>	
<b>04</b>	<p><b>Toxicity in herbals and their interaction:</b>                      Herbal-Drug &amp; Herbal-Food interactions, General introduction to interaction and classification, Study of following drugs and their possible side effects and interactions                      a. Liquorice                      b. Cinnamon                      c. Ginseng                      e. Garlic                      f. Digitalis</p>
<b>05</b>	<p><b>Pharmacovigilance of herbal medicines:</b>                      a. Meaning, need &amp; significance                      b. WHO guidelines on safety monitoring of herbal medicines in pharmacovigilance systems</p>



#### 4.8.7 T QUALITY ASSURANCE TECHNIQUES

Sr.No	Topic no.	Topic
<b>Section-I</b>		
1	2	Calibration & Qualifications
2	3	Introduction and Concept of Good Manufacturing Practices (GMP), Good Laboratory Practices (GLP), Good Documentation Practices (GDP). Introduction to Pharmaceutical quality management system and quality risk management.
<b>Section-II</b>		
3	4	Pharmaceutical Validation