Max Marks: Time: 3 Hot Q.CODE: F? Answer Question No.1 (Part-A) and 02 (Part-B) which The figures in the right hand m 257 257 Part- A Objective Answer Type Questions (Answer All) a) Write down the structures of stereoisomers for bromine. b) Differentiate between diastereomers and enantiom c) Describe the isomerism exhibited by maleic acid a d) Explain the term chiral molecule. e) State the necessary condition for a compound to s f) Explain the term Meso compound: 7 g) Write about conformational isomerism. h) Why do not you expect geometrical isomers in cas i) Write down the structure of the following compound: i) Imidazole ii) Indole iii) Quinoline iv) Thiazole j) State Clemmensen reduction. Part- B Focused-Short Answer Type Questions- (Answer Type Q	IC CHEMISTRY - III farma 257 75 IIIS 24 are compulsory and argin indicate marks. 57 257 ned when cis-2-butene ers. and fumaric acid.	257	257 (2 x 10)
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Max Marks: Time: 3 Hot Q.CODE: F? Answer Question No.1 (Part-A) and 02 (Part-B) which The figures in the right hand m 257 257 Part- A Objective Answer Type Questions (Answer All) a) Write down the structures of stereoisomers for bromine. b) Differentiate between diastereomers and enantiom c) Describe the isomerism exhibited by maleic acid a d) Explain the term chiral molecule. e) State the necessary condition for a compound to s f) Explain the term Meso compound: 7 g) Write about conformational isomerism. h) Why do not you expect geometrical isomers in cas i) Write down the structure of the following compound: i) Imidazole ii) Indole iii) Quinoline iv) Thiazole j) State Clemmensen reduction. Part- B Focused-Short Answer Type Questions- (Answer Type Q	75 ars 24 are compulsory and argin indicate marks. 57 257 ned when cis-2-butene ers. and fumaric acid.	any TWO fron 257	m Part-C. 257 (2 x 10)
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Q1 Objective Answer Type Questions (Answer All) a) Write down the structures of stereoisomers for bromine. b) Differentiate between diastereomers and enantiom c) Describe the isomerism exhibited by maleic acid at d) Explain the term chiral molecule. e) State the necessary condition for a compound to s f) Explain the term Meso compound: g) Write about conformational isomerism. h) Why do not you expect geometrical isomers in cas i) Write down the structure of the following compound i) Imidazole ii) Indole iii) Quinoline iv) Thiazole j) State Clemmensen reduction. Part- B Focused-Short Answer Type Questions- (Answer	ned when cis-2-butene ers. nd fumaric acid.	257	(2 x 10)
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d) Explain the term chiral molecule. e) State the necessary condition for a compound to s f) Explain the term Meso compound:57 g) Write about conformational isomerism. h) Why do not you expect geometrical isomers in cas i) Write down the structure of the following compound i) Imidazole ii) Indole iii) Quinoline iv) Thiazole j) State Clemmensen reduction. Part- B Focused-Short Answer Type Questions- (Answer			
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h) Why do not you expect geometrical isomers in cas i) Write down the structure of the following compound i) Imidazole ii) Indole iii) Quinoline iv) Thiazole j) State Clemmensen reduction. Part- B Focused-Short Answer Type Questions- (Answer	57 257	257	257
 i) Imidazole ii) Indole iii) Quinoline iv) Thiazole j) State Clemmensen reduction. Part- B Q2 Focused-Short Answer Type Questions- (Answer Type Questions) 			
 j) State Clemmensen reduction. Part- B Q2 Focused-Short Answer Type Questions- (Answer Type Questions) 	ls:		
77 Q2 Focused-Short Answer Type Questions- (Answ			
 a) Define the term stereoisomerism and classify it wit 		257	(5 x 7)7
a) Define the term stereoisomerism and classify it witb) Write notes on Fischer's projection.	i examples.		
c) Explain E and Z system of nomenclature with exar	iples.		
d) Write short notes on resolution of racemic modifica	tion.		
e) Explain R and S system of nomenclature with exar	nples.		
f) Write notes on conformational isomerism of n-Buta	ñe. 257	257	257
g) Explain stereospecific reaction.			
 b) Discuss the general methods of preparations of Fu 	ran.		
 i) Discuss the chemical properties of Imidazole. 			
Part-C			
Long Answer Type Questions (Answer Any Tw	2) 257	257	257
Q3 Discuss the synthesis, chemical reaction and medi	cinal uses of Pyrrole.		(10)
Q4 Discuss the synthesis, chemical reaction and medi	cinal uses of Pyrazole.		(10)
Q5 Explain the methods of preparation and chemical r	eaction of Pyridine.		(10)
Q6 Write short notes on :		257	(10) ₂₅₇
a) Wolff-Kishner reductionb) Claisen Schmidt reaction	57 257	_01	201
Signature (Continue Todollori	57 257		

7			Registration No: 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257 257	257
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			4 th Semester Regular Examination 2018-19 MEDICINAL CHEMISTRY -I BRANCH : B.Pharma	5P4U21
7			257 Time: 3 Hours 257 257 Max Marks: 75 Q.CODE: F244	257
	Ansv	wer (Question No.1 (Part-A) and 02 (Part-B) which are compulsory and any TWO from The figures in the right hand margin indicate marks.	Part-C.
			Part- A	
7	Q1	a) b) c) d) e)	Objective Answer Type Questions (Answer All) How Bio-isosters classified, give example. State Henderson-Hassel Bach equation for acid & base. Write the structure and IUPAC name of Bitolterol. Outline the importance of Partition coefficient in drug design. Write the chemistry & uses of Physostigmine.	(2 x 10) 257
7		f) g) h) i)	Outline the synthesis of Carbachol. Write the structure and IUPAC name of Morphine. How you differentiate sympathetic and Parasympathetic neurotransmitter. Write MOA of Tolazoline. Write Mechanism of action of Opioids.	257
	02		Part- B	(E v 7)
	Q2	a) b)	Focused-Short Answer Type Questions- (Answer Any Seven) Explain Phase-I Principle for Drug metabolism. Explain the bio-synthetic pathways of Catecholamine.	(5 x 7)
7		c)	Write down the synthesis MOA and uses of Salbutamol. 257 257	257
		d)	Explain SAR of Aryl-Ethanol-amines as β– blocker.	
		e)	Write the synthesis, MOA and uses of Neostigmine.	
		f) g)	Distinguish between Cholinergic agonists and antagonist with example, write detail on Ipratropium bromide. Explain MOA of Anti-convulsant with reference to the drug Phenytoin.	
7		h)	Explain the chemistry and outline the synthesis of Diazepam.	257
		i)	Classify NSAID with example. Give synthetic route and uses of Mefenamic acid.	
			Part-C	
	Q3		Long Answer Type Questions (Answer Any Two) Classify antipsychotics with suitable examples. Describe SAR of Butyrophenones, taking the example of Haloperidol.	(10)
/	Q4		Define Hypnotic and sedative. Classify it with examples. Discuss SAR of Barbiturates.	257 (10)
	Q5		Classify Parasympatholytics drugs with examples. Discuss SAR of Cholinolytic agent. Write structure and uses of Atropine Sulphate.	(10)
7	Q6		Classify General anaesthetics with examples. Describe synthetic route, MOA and uses of Methohexital sodium and Ketamine Hydrochloride	(10) 257

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57			257 4 th Semester Regular Examination 2018-19 PHYSICAL PHARMACEUTICS-II BRANCH: B.Pharma Time: 3 Hours Max Marks: 75 Q.CODE: F381	257	257
	Ans	wer	Question No.1 (Part-A) and 02 (Part-B) which are compulsory and a	ny TWO from	Part-C.
7			The figures in the right hand margin indicate marks.	257	257
	Q1	a)	Part- A Objective Answer Type Questions (Answer All) State mobility and kinematic viscosity.		(2 x 10)
7		b) c) d) e) f) g) h) i)	Define light powders and heavy powders with example. Differentiate between under size and over size frequency distributionin powder Zero order reactions are dependent upon the concentration of reactant. Common What is plug flow? How can it be minimized? State porosity. Derive the expression to determine it. Write the relationship among true solution, coarse suspension and colloids. Write Gold number with its Significance. State electro-kinetic and electro-dynamic in colloids. How does suspension differ from emulsion?		257
57	Q2	a) b) c) d) e)	Part- B Focused-Short Answer Type Questions- (Answer Any Seven) 257 Describe briefly the applications of micromeretics in pharmacy. State Specific surface. Write down any two methods for its determination. Differentiate between Newtonian flow and non-Newtonian flow. Write down any two methods to purify colloids. Explain rheological properties of suspension.	257	(5 x 7)7
7		f) g) h) i)	State half-life and shelf life of drug,and derive these for a drug follow degradation kinetics. Explain Donnan membrane effect with suitable example. Describe different graphic presentations of size distribution data in powders. Explain brieflydifferent types of teststo identify the types ofemulsion.	257	257
			Part-C		
7	Q3		Long Answer Type Questions (Answer Any Two) Define Non-Newtonian flow of liquid. Describe the principle, construction of curadvantage point in cone-plate method. 257 257 257 257 257	p-bob over the	(10)
	Q4		Discuss accelerated stability study for determining the shelf life of drug. V applications and limitations.	Vrite down its	(10)
	Q5		State colloid. Classify different type of colloid with suitable examples.		(10)

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57			257	257_	_	257		A 257			25	7		257		257
	Q1	a)		Answer Type apeutic index												(2 x 10)
		b)	What is cor	npetitive anta	gonism	? Write										
		c) d)	•	ergism with e -transmissior	•	S.										
		e)	Benzodiaze	epines are pre	eferred			s –con	nmen	ıt.						
		f) g)		e Tolerance & sicular reupta				al tran	emie	sion c	of nor	adrar	naline?	Write o	nne	
57		9)		is vesicular r				ai 11257i	311113	31011 C	71 1101	aurer	iaiii ic :	VV1110 C	JIIC	257
		h) i)		nechanism of two opoid ant					kamp	le.						
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	Q2	۵١		Short Answe												(5 x 7)
57		a) b)		erent Phase- cribe about th								nples		257		257
		c)	Briefly enur	merate abou	t the dif	ferent p	hases of	clinica	al tria	l.		•				
		d) e)		f account on t d write about							alpha	a adre	energio	blocke	rs	
		f)	Write the m	nechanism, ad	dverse (effect a	nd uses	of pher			шртк	u uur	on or gro	BIOOKO		
		g) h)		e on centrally ny five factors												
57		i)		out the differe						with s	suitab	le exa	amples	257		257
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	Q4			algesics. Cla ogical action o			analgesi	cs wi	th e	xamp	les a	and	write	about	the	(10)
57	Q5			nticholinergic	·		vamnles	Evisio	in a	hout 1	tha 25	harm	acolog	ical ⁵³ ct	ion	(10) ²⁵⁷
	QU		atropine.	illoriollilergio	urugs	WILLI C	латтрісэ.	LAPIC	iiii ai	bout	ше р	папп	acolog	icai act	.1011	(10)
	Q6		Classify s benzodiaze	edatives ar epines.	nd hyp	onotics.	Write	M.O.	A.,	adver	se e	effect	and	uses	of	(10)
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257	04	257 257_		257	Part- A			257	257	25
	Q1	Objective Answer T a) Write the biological s		•		11)				(2 x 10
	I	Define Ayurveda.								
		Write about organoleWhat is soil fertility?	otic evalua	ation of c	rude dru(gs.				
	(State the definition of								
257		f) Write the general prog) Write the biologicals				of Pap	ain.	257	257	25
201	l	n) Define optical rotation	١.	-				201	201	
		i) Write the biological sj) State the biological s					f Hem	ıp.		
	00	Facused Chart Area	 .	O	Part- E		0.			(F × 7)
	Q2	Focused-Short Ans Write a note on Soil.	wer iype	Questio	ns- (Ans	swer A	uny Se	even)		(5 x 7)
257		Differentiate organize	d and und	rganized	drugs w	ith exa	mples	3. 257	257	25
	(c) What is mutation? W	ite the diff	erent typ	es of mu	ıtation.				
	(d) Write the applications	of Auxin	and Cyto	kinin.					
	•	e) Illustrate the applicat	ons of pla	nt tissue	culture.					
		f) Explain in details abo	ut natural	allergens	with exa	amples	S .			
257	(g) Illustrate the pharma	cognostica	I profile o	of Honey	257		257	257	25
	I	n) Distinguish between	orimary an	d second	dary met	abolite	S.			
		i) Explain the biological	source, c	hemical r	nature ar	nd uses	s of Co	otton.		
		Long Answer Type	Quantiana	. (Anoug	Part-C					
	02			•	•	•	n and	different type	o of adultaranta	(40)
257	Q3	Describe the differen		257		257		257	257	(10)
	Q4	Discuss in detail abo				•	issue	culture.		(10)
	Q5	Classify crude drugs								(10)
	Q6	Describe the differen	methods	of pest c	ontrol ma	anager	nent.			(10)

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57		257	257	2	57	257		257	257	257
	Q1 a) b) c) d)	Only Short A State fluidity Write the equ State surfacts State Microm	and mobility ıation and p ant. How H	according arameters LB value	ons (Ansv g to rheolo s of Ostwa depends	ogy. Ild viscom on solub	neter. pility of dr	ug?		(2 x 10)
57	e) f) g) h) i)	How angle of Write relation How plug flow What is gold How Bancrof State both Ze	f Repose de namong por w can be mi number? W t's rule is de	pends on osity, bulk nimized? rite any tw pends on	flow proper density a vo signification preparation	erties? and tap de ance. on of emu	ensity. ulsion?	257	257	257
					Pa	art- II				
57	Q2 a) b) c) d) e) f) g) h) i) k)	Only Focuse Explain differ State BET ed How calibrati Explain the b Illustrate differ Differentiate Analyze and Write applica Explain the re Explain the equation. Illustrate abo	ent types of quation. Writ on will be do ulges and serent powde lyophilic and explain the tion of collo neological p	diameter de differen one in cas purs of rh r distributi d lyophobi good prop ids in pha roperties f Donnan	according t types of se of Micro eograms. ion curves c colloids perties of s rmacy. of emulsion membra	g to Micro isotherms oscopic m s. suspensio on. 257 ane equi	meritics. s. ethod? on.	257 257	257 e examples and	(6 x 8) 257
	I)	State and de					example	•		
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57	Q3	Only Long A With relevant Cup and Bob	t mathemati	cal equati	ons (Ansvion, give t	ver Any, he constr	ruction, w	orking and	disadvantages of d	(16) ²⁵⁷
	Q4		g Coulter-C						particle size in a disadvantage of	(16)
57	Q5	Discuss the mechanisms							ns. Describe the s in water	(16) ₂₅₇
	Q6	Explain Non-	Newtonian t	type of flow	w with rhe	eograms, i	mechanis	ms and suit	able examples.	(16)

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		4 th Semester Back Examination 20)18-19		
		PHARM. ENGINEERING-II			
		BRANCH : B.Pharma			
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Ans		Question No.1 (Part-1) which is compulsory, any eig			vo fror
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		The figures in the right hand margin ind	icate marks	3.	
		Part- I			
Q1	257	Only Short Answer Type Questions (Answer All-10)	257	257	(2 x 1
	a)	Write the Reynolds number formula.			
	b)	What is adiabatic saturation temperature?			
	c) d)	Write four valves name used for flow of liquids. What is the function of pump?			
	e)	State the function of compressor.			
	f)	Write basic components of belt conveyer.			
	g)	Write the steps of crystal formation from solution.	257	257	
	h)	Write advantages of steel as material of construction.			
	i)	State various industrial hazards.			
	j)	Define centrifugation and name one centrifuge.			
Q2		Part- II	Any Field o	ut of Turaliza	(C × 0
QZ	257 a)	Only Focused-Short Answer Type Questions- (Answer Illustrate an equation for pressure difference for simple mar	257	257	(6 x 8
	b)	Write applications of humidity in Pharmaceutical filed.	iomotor.		
	c)	Describe methods of measurement of humidity.			
	d)	Write construction and working of Diaphragm pump.			
	e)	Write a note on globe valve.			
	£]7	Explain Mier's Super saturation theory.	257	257	
	g)	What is caking of crystal and how it can be prevented?	201	201	
	91	3			
		Explain glass as a material of construction.			
	h)	Explain glass as a material of construction. Write a note on industrial dermatitis.			
	h) i)	Write a note on industrial dermatitis.			
	h)	•			

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57			4 th Semester Back Examination 2018-19 BIOCHEMISTRY BRANCH : B.Pharma Time : 3 Hours Max Marks : 100 Q.CODE : F945	57 1 5	Pharm PH403 ₅₇
57	An	ISW	er Question No.1 (Part-1) which is compulsory, any eight from Part-II and a Part-III. The figures in the right hand margin indicate marks.	i ny two 1	rom ₂₅₇
	Q1	a) b)	Part- I Only Short Answer Type Questions (Answer All-10) What is high energy rich compound? Give two examples. Define Km. Write its significance.		(2 x 10)
57		c) d) e) f) g) h) i)	Name the regulatory enzymes of Glycolysis. Write the components of ETC and indicate the sites of phosphorylation. What is Rapaport-Leubering cycle? Mention the significance of α-oxidation of fatty acid. Distinguish between Endocytosis and Exocytosis. What is fermentation? Write down the reaction of fermentation. What is translation? Give the structures of any two Purine nucleotides.	57	257
57			Part- II	57	257
57		a) b) c) d) e) f) g) h) i) k)	Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) Write down the various mechanism of Transport process. Describe the processes of glycogenolysis. What is Ketosis? Describe Ketogenesis. Explain how ATP is synthesized in the body. Mention the significance of ATP. Define Enzyme inhibition. Write down about reversible inhibition. What is eicosanoids? Write down the biological role of Prostaglndins. Describe β- oxidation with energetic. What is HMP Shunt? Describe the oxidative phase and importance of HMP Shunt. Define Coenzyme. Write down the function of PLP. Write down about transcription. Write down various application of enzyme in clinical diagnosis Describe Urea cycle.	57	(6 x 8)
57	Q3		Part-III Only Long Answer Type Questions (Answer Any Two out of Four) Define enzyme. Classify with suitable examples. Write down the various factors alterion enzyme activity.	57 ng the	257 (16)
	Q4		What is Kreb's cycle? Describe detail the reactions with energetic. Mention the amplinature of this cycle.	hibolic	(16)
-7	Q5		Describe how Palmitic acids synthesize in the body.	67	(16)
57	Q6		Define Xenobiotics? Discuss the various mechanism of detoxification.	57	(16)

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Total N	umber of Page	s : 01							3.Pharm 5PH404	
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b) c)	What do you m Differentiate be				in comp	uter archite	ecture			
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f) g)	What do you m Give name of to			tes related	to nharm	naceutical i	nformation	า		
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j)	Write a note on									
		CPU?		Part- II						
j) Q2 ₂₅₇	Only Focused	CPU?	Answer T			(Answer ₅₇ 4	Any Eigh	t out, of	(6 x 8)) ;
Q2 ₂₅₇	Only Focused Twelve)	CPU?	201	ype Ques	tions- (201	Any Eigh	t out of	(6 x 8))
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		4 th Semester Back Examination 2018-19 ORGANIC CHEMISTRY- III		
		BRANCH : B.Pharma		
		Time : 3 Hours Max Marks : 100		
		257 257 Q.CODE : F667 257	257	257
	Answ	er Question No.1 (Part-1) which is compulsory, any eight from Part-	ll and any tv	vo from
		Part-III. The figures in the right hand margin indicate marks.		
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^	14	Part- I		(2 × 40)
Q	(1 a)	Only Short Answer Type Questions (Answer All-10) Write any two medicinal uses of pyrazole.		(2 x 10)
	b)	Write the structure and naming the compound of phenothiazine.	257	257
	c)	Give any two application of Benzoin condensation reaction.		
	d)	What is zwitter ion.		
	e) f)	Give the name and structure of any two sulphur containing amino acids. What is polypeptide bond, give suitable example.		
	g)	What do you mean by reducing and non reducing sugars, Give suitable	example fron	n
	b)	each. 257 257 257	257	257
	h) i)	What is saponification value give its significance. What is Reichert-Meissl value.		
	j)	What is meant by pericyclic reaction. Give example.		
		Dowl II		
Q	2	Part- II Only Focused-Short Answer Type Questions- (Answer Any Eight out of	f Twelve)	(6 x 8)
	a)	Give synthesis and reaction of pyrimidine.	0.57	, ,
	b)	What are lipids classify them with suitable structures and write their chemical	properties.	257
	c)	Write a short notes on nucleic acids and their components.		
	d)	Give the reaction, mechanism and application of Reformatsky reaction.		
	e)	Give the reaction, mechanism and application of Michael addition reaction.		
	f)	What are cope rearrangements and claisen rearrangements.		
	g)	2Write in detail about pericyclic rearrangement. 257 257	257	257
	h)	Classify proteins write about purification of proteins.		
	i)	Write short notes on structure of DNA.		
	j)	Write the synthesis ,reaction and medicinal uses of benzimidazole.		
		Write the synthesis, reaction and medicinal uses of oxazole.		
	k)	vince the synthesis, reaction and medicinal ases of exagence.		
	k) l)	Write the chemistry of starch.	257	257

257	257	257	257	257	257	257	25
257 Q3	Write in o		Questions (Ans	P art-III w er Any Two ou rule for electrocy		257 nd Diel's Alder	25 (16)
Q4	reaction.	tion and mechan	ism of Knoevena	gel condensation	and Perkin reac	tion	(16)
257 Q5	2Write the		alpha amino ac	ids and their ph			(16) 25
Q6	Define ar	id classify carboh	ydrates and write	e the chemistry of	glucose and fruc	ctose.	(16)
257	257	257	257	257	257	257	2:
257	257	257	257	257	257	257	2
257	257	257	257	257	257	257	2
257	257	257	257	257	257	257	2
257	257	257	257	257	257	257	2

Total Number of Pages : 02 Total Number of Pages : 02 $x^{th} \text{ Semester Back Examination 2018-19}, \\ \text{MATHEMATICS & STATISTICS} \\ \text{BRANCH : B. Pharma} \\ \text{Max Marks : 100} \\ \text{Time : 3 Hours} \\ \text{Q.CODE : F733} \\ \text{Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III. Q1 Only Short Answer Type Questions (Answer All-10) (2 x 10) a) Evaluate: \int \sqrt{(1-\sin 2x)} dx b) Compute: \int xe^x dx c) Solve x \frac{dv}{dx} - \sqrt{1-y^2} d) Test the equation e^x dx + (xe^x + 2y) dy = 0 for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: L(\sqrt{t}) g) What is partition values? f) Define positive & negative correlation? g) What is binomial distribution for which mean is 20 & variance is 15 if it is exact. e) Find the Laplace Transform of L(x, y) = L(x, y)$	57		257	257	257	257	257	257	257
15PH406 15PH46B 15PH406 15PH46B 15PH406 15PH46B 15PH406 15PH46B 15PH406 15PH46B 15			Registration N	No:					
4th Semester Back Examination 2018-19.7 MATHEMATICS & STATISTICS BRANCH : B. Pharma Max Marks : 100 Time : 3 Hours Q.CODE : F733 Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III. The figures in the right hand margin indicate marks. 257 Part-II Q1 Only Short Answer Type Questions (Answer All-10) (2 x 10) a) Evaluate: $\int \sqrt{(1-\sin 2x)} dx$ b) Compute: $\int xe^x dx$ c) Solve $x \frac{dy}{dx} = \sqrt{1-y^2}$ 257 d) Test the equation $e^x dx + (xe^x + 2y) dy = 0$ for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: $I(\sqrt{1})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 1557 257 257 Q2 Only Focused-Short Answer Type Questions. (Answer Any Eight out of Twelve) (6 x 8) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^2 x + \cos^2 x}{(x^2 + 1)^2 x + 2} dx$ c) Solve: $\frac{dx}{x^2} + \frac{x^2}{x^2} + \frac{x^2}{x^2} + \frac{x^2}{x^2} + \frac{x^2}{x^2} + \frac{x^2}{x^2}$ c) Solve: $\frac{dx}{x^2} + \frac{x^2}{x^2} + \frac{x^2}{x^2}$		Total N	umber of Page	es : 02					
MATHEMATICS & STATISTICS BRANCH: B. Pharma Max Marks: 100 Time: 3 Hours Q.CODE: F733 Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-II. The figures in the right hand margin indicate marks. Part-I Only Short Answer Type Questions (Answer All-10) (2 x 10) a) Evaluate: $\int \sqrt{(1-\sin 2x)} dx$ b) Compute: $\int xe^x dx$ c) Solve $x \frac{dx}{dx} = \sqrt{1-y^2}$ d) Test the equation $e^x dx + (xe^x + 2y) dy = 0$ for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: $L[\sqrt{t}]$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 15 j) What is binomial distribution? Part-II Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^2 x + \cos^3 x}{\sin^2 x \cos^2 x} dx$ c) Solve: $x^2 y dx + (x^2 + y^2) dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x} y = \frac{\sin x}{x}$, $y(0) = 0$ e) Find the Inverse Transform of $\int \frac{7}{p^2 + 10p + 20}$ f) If $\int f(p)$ is a transform of $\int f(t)$ and if $\int f(t)$ has the value $\int f(0)$ when $t = o$, then $\int \frac{1}{t} \int f(t) = \int f(p) - f(0)$ g) Calculate the standard deviation for the following data:			0.57	osz 4 th Se	emester Back	c Examinatio	n 2018-19	0.57	
The figures in the right hand margin indicate marks. 257 Part-I Q1 Only Short Answer Type Questions (Answer All-10) (2 x 10) a) Evaluate: $\int \sqrt{(1-\sin 2x)} dx$ b) Compute: $\int xe^x dx$ c) Solve $x\frac{dy}{dx} = \sqrt{1-y^2}$ 257 257 257 257 257 257 d) Test the equation $e^y dx + (xe^y + 2y) dy = 0$ for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: $L(\sqrt{t})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 15 \(\frac{x}{2}\) 257 257 Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{dx}{\sin^2 x \cos^2 x} dx$ 257 257 257 257 c) Solve: $x^2 y dx - (x^2 + y^2) dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x} y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2 + 10p + 20}$ f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = 0$, then $L^4(f^*(t)) = p f(p) - f(0)$ g) Calculate the standard deviation for the following data: $\frac{C(ass)}{(ass)} = \frac{15-20}{(ass)} = \frac{20-25}{(ass)} = \frac{257}{(ass)} = \frac$				ı	MATHEMATION BRANCH Max M Time Q.CO	CS & STATIS I : B. Pharma Iarks : 100 : 3 Hours DE : F733	TICS		
The figures in the right hand margin indicate marks. 257 Part-I Only Short Answer Type Questions (Answer All-10) Evaluate: $\int \sqrt{(1-\sin 2x)} dx$ b) Compute: $\int xe^x dx$ C) Solve $x\frac{dy}{dx} = \sqrt{1-\frac{2}{y^2}}$ 257 257 257 257 257 257 257 25		Ansv	ver Question N	lo.1 (Part-1) \			eight from F	Part-II and any	y two from
Q1 Only Short Answer Type Questions (Answer All-10) a) Evaluate: $\int \sqrt{(1-\sin 2x)} dx$ b) Compute: $\int xe^x dx$ c) Solve $x \frac{dy}{dx} = \sqrt{1-y^2}$ 257 257 257 257 257 d) Test the equation $e^x dx + (xe^x + 2y) dy = 0$ for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: $L(\sqrt{t})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution? Part-II Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x + \cos^3 x}{\sin^2 x \cos^3 x} dx$ 257 257 257 257 257 257 c) Solve: $x^2ydx - (x^2+y^2)dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2+10p+20}$ f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = 0$, then $L\{f'(t)\} = pf(p) - f(0)$ g) Calculate the standard deviation for the following data:	57		257	The figures			indicate mar	'ks. 257	257
Q1 Only Short Answer Type Questions (Answer All-10) a) Evaluate: $\int \sqrt{(1-\sin 2x)} dx$ b) Compute: $\int xe^x dx$ c) Solve $x \frac{dy}{dx} = \sqrt{1-y^2}$ 257 257 257 257 257 d) Test the equation $e^x dx + (xe^x + 2y) dy = 0$ for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: $L(\sqrt{t})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution? Part-II Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x + \cos^3 x}{\sin^2 x \cos^3 x} dx$ 257 257 257 257 257 257 c) Solve: $x^2ydx - (x^2+y^2)dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2+10p+20}$ f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = 0$, then $L\{f'(t)\} = pf(p) - f(0)$ g) Calculate the standard deviation for the following data:					-	Dout I			
b) Compute: $\int xe^x dx$ c) Solve $x \frac{dy}{dx} = \sqrt{1-\frac{x^2}{y^2}}$ 257 257 257 257 257 257 d) Test the equation $e^y dx + (xe^y + 2y)dy = 0$ for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: $L(\sqrt{t})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 1557 257 257 j) What is binomial distribution? Part-II Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x \pm \cos^3 x}{\sin^2 x \cdot \cos^2 x} dx$ 257 257 257 257 257 257 257 c) Solve: $\frac{dy}{dx} + \frac{1}{x} y = \frac{\sin x}{\sin^2 x}, y(0) = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x} y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2 \pm 10p + 20}$ 257 f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = o$, then $L\{f'(t)\} = p\overline{f}(p) - f(0)$ g) Calculate the standard deviation for the following data:		Q1	Only Short An	ıswer Type Qı					(2 x 10)
c) Solve $x\frac{dy}{dx} = \sqrt{1-y^2}$ 257 257 257 257 257 257 d) Test the equation $e^x dx + (xe^y + 2y)dy = 0$ for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: $L(\sqrt{t})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 15 7 257 257 j) What is binomial distribution? Part-II Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x + \cos^3 x}{\sin^2 x \cos^2 x} dx$ 257 257 257 257 257 c) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}, y(0) = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\int \frac{7}{p^2 + 10p + 20}$ 257 f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = o$, then $L(f'(t)) = p\overline{f}(p) - f(0)$ g) Calculate the standard deviation for the following data: Class 5-10 10-15 15-20 20-25 25-30		a)	Evaluate: $\int \sqrt{1}$	$-\sin 2x$) dx					
d) Test the equation $e^{y}dx + (xe^{y} + 2y)dy = 0$ for exactness & solve it if it is exact. e) Find the Laplace Transform of 1 f) Evaluate: $L(\sqrt{t})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 15 7 257 j) What is binomial distribution? Part-II Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x \pm \cos^3 x}{\sin^2 x \cdot \cos^3 x} dx$ c) Solve: $x^2 y dx - (x^3 + y^3) dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x} y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2 + 10p + 20}$ 257 f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = 0$, then $L\{f'(t)\} = p f(p) - f(0)$ g) Calculate the standard deviation for the following data: Class 5-10 10-15 15-20 20-25 25-30		b)	Compute: $\int xe^{-x}$	^{x}dx					
e) Find the Laplace Transform of 1 f) Evaluate: $L(\sqrt{t})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 1557 j) What is binomial distribution? Part-II Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x \pm \cos^3 x}{\sin^2 x \cdot \cos^2 x} dx$ c) Solve: $x^2 y dx - (x^3 + y^3) dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x} y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2 + 10p + 20}$ 257 f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = o$, then $L\{f'(t)\} = p \overline{f}(p) - f(0)$ g) Calculate the standard deviation for the following data: Class 5-10 10-15 15-20 20-25 25-30	57	c)	Solve $x \frac{dy}{dx} = \sqrt{\frac{dy}{dx}}$	$\sqrt{1-y^2}$	257	257	257	257	257
f) Evaluate: $L(\sqrt{t})$ g) What is partition values? h) Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 1557 257 257 j) What is binomial distribution? Part- II Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x \pm \cos^3 x}{\sin^2 x \cos^2 x} dx$ c) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}, y(0) = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2 + 10p + 20}$ 257 f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = o$, then $L\{f'(t)\} = p\overline{f}(p) - f(0)$ g) Calculate the standard deviation for the following data:		d)	Test the equati	on $e^y dx + (xe^y)$	(+2y)dy = 0 for	r exactness &	solve it if it is e	xact.	
9) What is partition values? 1) Define positive & negative correlation? 257 Define positive & negative correlation? 30 Obtain the binomial distribution for which mean is 20 & variance is 15 or 257 31 What is binomial distribution? Part- II Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) 40 Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ 50 b) $ \int_{0}^{257} \int_{0}^{257} \frac{dx}{\sin^2 x \cos^3 x} dx $ 51 c) Solve: $ \int_{0}^{257} \frac{dx}{\sin^2 x \cos^2 x} dx $ 52 c) Solve: $ \int_{0}^{257} \frac{dx}{x} + \int_{0}^{257} \int_{0}^{$		•	γ – `	\	f 1				
Define positive & negative correlation? i) Obtain the binomial distribution for which mean is 20 & variance is 1557 257 258 Part- II Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x \pm \cos^3 x}{\sin^2 x \cos^2 x} dx$ c) Solve: $x^2 y dx - (x^3 + y^3) dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x} y = \frac{\sin x}{x}, y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2 \pm 10p + 20}$ 257 f) If $f(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = o$, then $L\{f'(t)\} = p \overline{f}(p) - f(0)$ g) Calculate the standard deviation for the following data: Class 5-10 10-15 15-20 20-25 257 257			\ /	/					
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a) Evaluate: $\int \frac{dx}{(x+1)(x+2)(x+3)}$ b) Evaluate: $\int \frac{\sin^3 x + \cos^3 x}{\sin^2 x \cdot \cos^2 x} dx$ 257 257 257 257 257 257 257 257 257 257					Par	t- II			
b) Evaluate: $\int \frac{\sin^3 x \pm \cos^3 x}{\sin^2 x \cdot \cos^2 x} dx$ 257 257 257 257 257 257 257 257 257 257						ons- (Answei	Any Eight ou	it of Twelve)	(6 x 8)
c) Solve: $x^2ydx - \left(x^3 + y^3\right)dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}$, $y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2 + 10p + 20}$ $\frac{257}{f}$ ($f(p)$) is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $f(0)$ when $f(0)$ when $f(0)$ when $f(0)$ ($f(0)$) $f(0)$) $f(0)$ ($f(0)$) $f(0)$) $f(0)$ ($f(0)$) $f(0)$) $f(0)$) $f(0)$ 0 (f					<u>,</u>				
c) Solve: $x^2ydx - \left(x^3 + y^3\right)dy = 0$ d) Solve: $\frac{dy}{dx} + \frac{1}{x}y = \frac{\sin x}{x}$, $y(0) = 0$ e) Find the Inverse Transform of $\frac{7}{p^2 + 10p + 20}$ $\frac{257}{f}$ ($f(p)$) is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $f(0)$ when $f(0)$ when $f(0)$ when $f(0)$ ($f(0)$) $f(0)$) $f(0)$ ($f(0)$) $f(0)$) $f(0)$ ($f(0)$) $f(0)$) $f(0)$) $f(0)$ 0 (f	57	b)	Evaluate: $\int \frac{\sin^2 x}{x}$	$\frac{3}{2}x \pm \cos^3 x dx$	257	257	257	257	257
e) Find the Inverse Transform of $\frac{7}{p^2+10p+20}$ f) If $\overline{f}(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t=o$, then $L\{f'(t)\}=p\overline{f}(p)-f(0)$ g) Calculate the standard deviation for the following data : $\begin{array}{ c c c c c c c c c c c c c c c c c c c$			5111	N. 005 N	0				
f) If $\overline{f}(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = o$, then $L\{f'(t)\} = p\overline{f}(p) - f(0)$ g) Calculate the standard deviation for the following data : $\begin{array}{ c c c c c c c c c c c c c c c c c c c$		d)	un n	л					
f) If $\overline{f}(p)$ is a transform of $f(t)$ and if $f(t)$ has the value $f(0)$ when $t = o$, then $L\{f'(t)\} = p\overline{f}(p) - f(0)$ g) Calculate the standard deviation for the following data : $\begin{array}{ c c c c c c c c c c c c c c c c c c c$		e)	Find the Invers	e Transform of	$\frac{7}{2}$	_ }			
$L\{f'(t)\} = p\overline{f}(p) - f(0)$ g) Calculate the standard deviation for the following data : $\begin{array}{ c c c c c c c c c c c c c c c c c c c$	57	f)	$ \begin{array}{c} 257 \\ \text{If } f(n) \text{ is a tra} \end{array} $	257 neform of $f(t)$	p + 10p + 20 and if $f(t)$ has	257 as the value of	(0) when t = 0	257 then	257
Class 5-10 10-15 15-20 20-25 25-30		-,	$L\{f'(t)\} = p\overline{f}(t)$	(p)-f(0)		is the value j	(0) which $i=0$,	, triori	
57 257 257 257 257 257 257 257 257		g)	Calculate the s	tandard deviat	ion for the follo	wing data :			
Frequency 257 4 257 3 257 2 257			Class	5-10	10-15	15-20	20-25	25-30	
	57		Frequency	²⁵⁷ 4	²⁵⁷ 6	9 ⁵⁷	3 257	2 251	257

h) Calculate coefficient of correlation from the following data:

Х	12	9	8	10	11	13	7
Υ	14	8	6	9	11	12	3
257	257		257	257		257	257

Fit a parabola of second degree to the following data:

X	0	1	2	3	4
Υ	1	1.8	1.3	2.5	6.3

Show that the mean of the binomial distribution is np. 7

What is normal distribution? Highlight its important properties.

Compute the variance of Poisson distribution.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

(16)

Q3 What is non-homogeneous linear equation with constant coefficients and

Solve $x^2 \frac{d^2 y}{dx^2} - x \frac{dy}{dx} - 3y = x^2 \log x$

Q4 Describe Laplace Transformation and Solve the equation (16)

$$y'' + 2y' + 2y = 2$$
, given that
 $y'(0) = 0$, $y'(0) = 1257$

$$y(0) = 0, y'(0) = 1^{257}$$

Q5 Find the coefficient of variation of the following data: (16)

Wages	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of workers	12 257	18	35 257	42	50 257	45	20 257	8 257

Q6 (16)Compute the mean of Poisson distribution and Fit a Poisson distribution to the following data & calculate the theoretical frequencies.

	Х	0	1	2	3
257	F	²⁵⁷ 123	²⁵⁷ 59 ²	⁷ 14 ²⁵	⁷ 3 ²⁵¹

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Total N	lumber of Pag	jes : 01	257	257	257	257	B.Pharm PH.4.10	257
257		stion No.1	PHARMA C BRANCH Time Max I 257 Q.CO which is co		- IV			257
Q1 a) b)	Answer the to Differentiate I	following qu between Per	u estions : ntose and Pe	ntasaccharide			(2 x 10)	
c) c) 257 d) e) f) g) h) i)	Name the base Define Rancion Draw the struck What are ess	ses found in dity of fats. cture of Thic ential amino cture and nu differences alder reactio	RNA . 257 phen and in acids. mbering of quetween fats in with example.	uinoline and is and oils? ole.	257 oquinoline.	257		257
Q 2 :57 a) b)		ructure of	anthracene		ll properties of Fung. Write its m		(5) (5)	257
Q3 a) b)				the important	methods of prepare	aration.	(5) (5)	
Q4 a) 257 b)	lipids. 257		257	257	nt chemical prop	perties of	(5) (5)	257
Q5 a) b)				S.			(5) (5)	
Q6	Explain the d	ouble helica	I structure of	DNA.			(10)	
Q7 ₂₅₇	Define and cimportant che	•	2 U -	201	amples _{⊵5} Explain	any five ₅₇	(10)	257
Q8 a) b) c)	Beckmann re	arrangemen	ıt				(5 x 2)	

Registration No: **B.Pharm** Total Number of Pages: 01 PH.4.3 4th Semester Back Examination 2018-19 **BASIC ENGINEERING -II (UNIT OPERATIONS - II) BRANCH: B.Pharma** Time: 3 Hours Max Marks: 70 Q.CODE: F243 Answer Question No.1 which is compulsory and any FIVE from the rest. 2The figures in2the right hand2margin indicate marks. Q1 Answer the following questions: (2 x 10) Write types of fluid flow. a) Define dew point and write its application. b) C) What are manometers and write its types. d) What are blowers? What are objectives of conveying? e) Define relative humidity and write its significance. 257 **f**) What are applications of centrifugation in Pharmacy field? Define the term Nucleation. i) Write advantages of glass as material of construction. j) Name sources of electrical hazards in Industry. Q2 a) Write principle and working of Orifice meter. (5) (5) Write a note on Reynolds number with its applications. b) Q3 Write the applications of humidity measurements in Pharmacy (5) a) Define dehumidification with its applications. What are approaches of (5) dehumidification? (5) Q4 a) Write theory of centrifugation. b) Write principle, construction and applications of perforated basket centrifuge. (5)Q5²⁵⁷ a) Define corrosion and How corrosion can be prevented and controlled? (5) Describe steel as materials of construction. (5) Q6 Write the principle, construction, working and applications of belt conveyors. (10)Q7 Describe the principle, construction, working and applications of Agitated (10)batch crystallizer. Q8 Write short answer on any TWO: (5×2) Diaphragm valve. a) b) Gear pump. c) Chemical hazards.

7	257	257	257	257	257	257	257
	Regist	ration No :					
7	Total N	umber of Pages :	02 257	257	257	²⁵⁷ B.Phar	
		4	MATHEMAT BRAN Tin	ack Examinatio ICS AND STAT ICH : B.Pharma ne : 3 Hours x Marks : 70	ISTICS	PH.4	.9
7	257	Answer Question The fig	257 Q.C n No.1 which is	CODE :≇F666 s compulsory a	257 nd any five fror indicate marks		257
	Q1 a)	J	2	:		(2 x 10)
7	₂₅₇ b)	Find the value of Solve $\frac{dy}{1+y^2} = \frac{a}{1+y}$	1	257	257	257	257
	d) e) f)	Compute: $y''' - y'$ Define Laplace To	=0				
7	²⁵⁷ g)	Find the median of the first factor of the fir	of the following va 3 2 Indard deviation of 7 8	of the following va		257	257
	i) j)	If mean of a Poiss What is Chi-squa	re distribution?	4, find the standa	ard deviation.	(5)	
7	Q2 ₂₅₇ a)	$\sqrt{x^2}$ +		257	257	257 (5)	257
7	257	(ii) $\int_{a}^{b} f(x)dx = \int_{a}^{b} f(x)dx$ Where c is a poin	$f(x)dx + \int_{\mathcal{L}_{57}} f(x)dx$ t inside or outside	257 e the interval $ig[a,big]$	257	257	257
	Q3 a)	Solve: $(\cos x + y \sin x)$,	$y,y(\pi)=0$		(5) (5)	
7	257 Q4 a)		1 (1	,	257	257 (5)	257
	b)	Find the Laplace	Transform of 5sir	n2t-3cos2t		(5)	

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