M.Phil./Ph.D. Entrance Examination, 2025
Pharmacy 02PHA

Day and Date: SUNDAY, 21st DEC. 2025   **Total Marks: 100**

Time:

Instructions: i) All questions are compulsory

ii) Each question carries 2 marks

iii) Write the correct option in the box at right
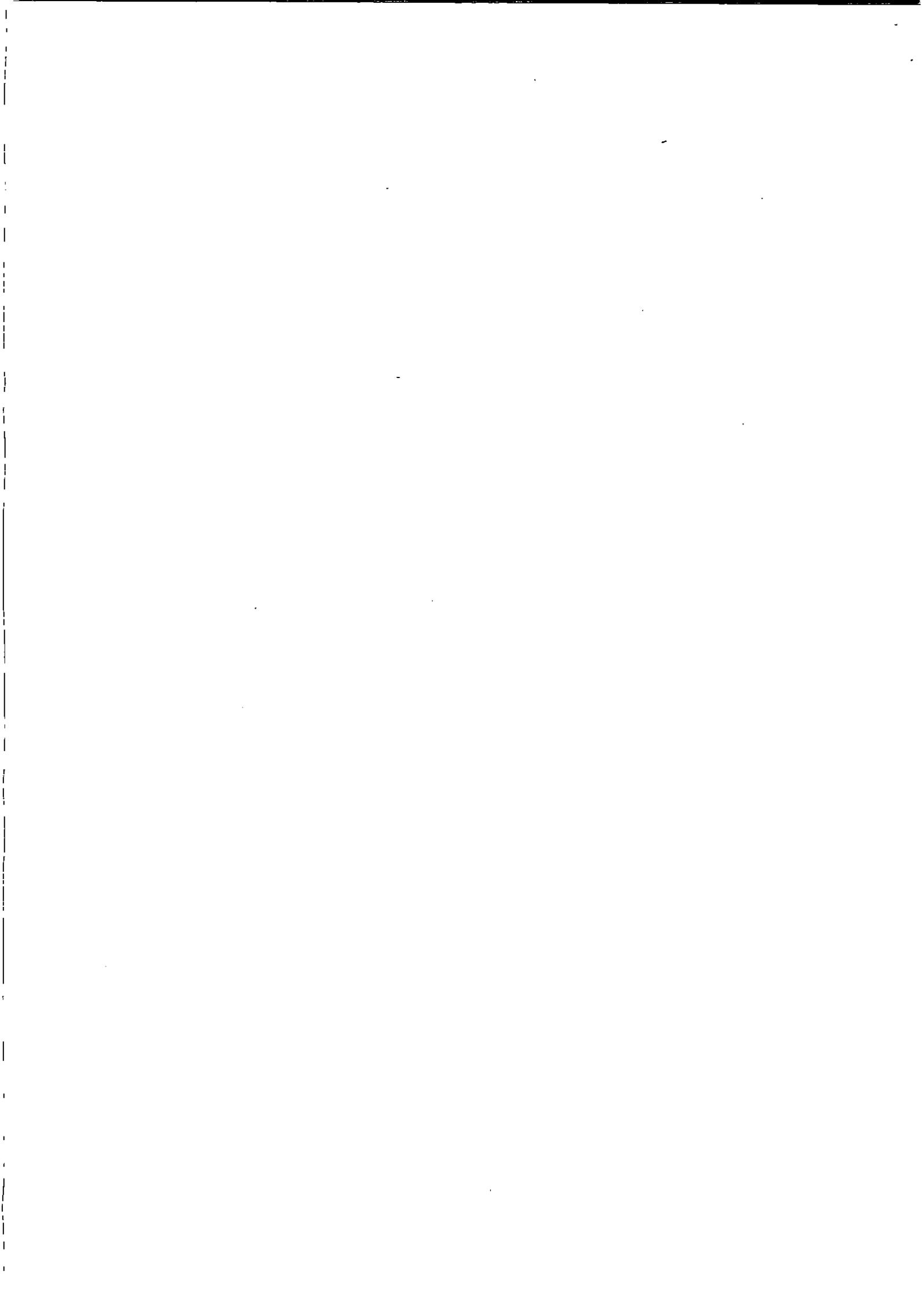
iv) Use of non-programmable calculator is allowed

		Correct Option
Q. 1)	Research aimed at understanding cause–effect relationship is:	D
	A) Exploratory B) Qualitative	
	C) Descriptive D) Causal	
Q. 2)	A variable that is manipulated is called:	B
	A) Dependent variable B) Independent variable	
	C) Confounding variable D) Latent variable	
Q. 3)	Which scale classifies objects without order?	A
	A) Nominal B) Ordinal	
	C) Interval D) Ratio	
Q. 4)	"Pilot study" refers to:	B
	A) Large sample experimentation B) Trial run of questionnaire	
	C) Interview schedule D) Secondary analysis	
Q.5)	When a research problem is related to heterogeneous population, the most suitable sampling method is:	D
	A) Cluster Sampling B) Convenient Sampling	
	C) Lottery Method D) Stratified Sampling	
Q. 6)	"Each kth element selected from sampling frame" represents:	C
	A) Random sampling B) Stratified sampling	
	C) Systematic sampling D) Snowball sampling	
Q. 7)	A hypothesis that seeks rejection is:	A
	A) Null B) Alternative	
	C) Directional D) Non-directional	
Q.8)	A distribution with mean < median is:	C
	A) Symmetrical B) Positively skewed	
	C) Negatively skewed D) Uniform	
Q. 9)	Which software checks plagiarism?	B
	A) MS Word B) Turnitin	
	C) Chrome D) PubMed	
Q.10)	Assigning symbols to responses is:	B
	A) Editing B) Coding	

	C) Tabulation	D) Validation	
Q. 11)	A census survey is preferred when:		A
	A) Population is small	B) High variation exists	
	C) Only qualitative data required	D) Time available is less	
Q.12)	Time-series data is best plotted with:		B
	A) Pie chart	B) Line graph	
	C) Scatter plot	D) Column chart	
Q. 13)	A dichotomous variable has:		A
	A) Two categories	B) Many categories	
	C) Continuous values	D) No values	
Q.14)	The chi-square test is		D
	A) a mean	B) a multi-question tests	
	C) a statistical mistake	D) a statistic	
Q. 15)	The most reliable measure of central tendency when extreme values exist:		B
	A) Mean	B) Median	
	C) Mode	D) Range	
Q.16)	Factorial Analysis is		D
	A) To know the relationship between two variables	B) To test the Hypothesis	
	C) To know the difference between two variables	D) To know the difference among the many variables	
Q. 17)	The highest level of measurement is:		C
	A) Nominal	B) Ordinal	
	C) Ratio	D) Interval	
Q.18)	Identifying causes of a problem and possible solution to a problem is		B
	A) Field Study	B) Diagnostic study	
	C) Action study	D) Pilot study	
Q. 19)	Regression analysis predicts:		C
	A) Qualitative outcome	B) Mean difference	
	C) Value of dependent variable	D) Mode	
Q. 20)	A bar chart is used for:		B
	A) Continuous data	B) Categorical data	
	C) Interval data	D) Ratio data	
Q. 21)	Which of the following is an example of primary data?		D
	A) Book	B) Journal	
	C) Newspaper	D) Census Report	
Q. 22)	Mean deviation can be computed from:		C
	A) Mean	B) Median	
	C) Both A & B	D) Mode	
Q. 23)	A study comparing a new drug to a placebo in a randomized, double-blind setting is a type of:		D
	A) Case report	B) Cohort study	

	C) Cross-sectional study	D) Randomized Controlled Trial (RCT)		
Q. 24)	P-value in a clinical trial indicates:			B
	A) The probability that the drug is effective	B) The probability of observing the results if the null hypothesis (no effect) is true		
	C) The strength of the drug	D) The duration of the study		
Q. 25)	Which is NOT a referencing manager?			D
	A) Mendeley	B) EndNote		
	C) Zotero	D) Matlab		
Q. 26)	In UV spectroscopy, bathochromic shift indicates:			B
	A) Shift to shorter wavelength	B) Shift to longer wavelength		
	C) Decrease in absorbance	D) Increase in molar absorptivity		
Q. 27)	The aromatic nucleus in Propranolol is			C
	A) Pyridine	B) Benzene		
	C) Naphthalene	D) Thiazole		
Q. 28)	Which isomerism arises due to restricted rotation?			B
	A) Conformational	B) Geometrical		
	C) Optical	D) Diastereomers		
Q. 29)	Sennosides belong to which class?			A
	A) Anthraquinone glycosides	B) Cardiac glycosides		
	C) Flavonoids	D) Tannins		
Q. 30)	Drug known to cause kernicterus:			C
	A) Penicillins	B) Diclofenac		
	C) Sulphacetamide	D) Warfarin		
Q. 31)	Which characterization parameter is directly related to nanoparticle stability and tendency to aggregate?			D
	A) Entrapment efficiency	B) Viscosity		
	C) Thermal conductivity	D) Zeta potential		
Q. 32)	The major component of bacterial cell wall is:			C
	A) Glycoprotein	B) Cellulose		
	C) Peptidoglycan	D) Lipoprotein		
Q. 33)	Which of the following represents ICH Q 8 guidelines			B
	A) Quality Risk Management	B) Pharmaceutical Development		
	C) Good Manufacturing Practices	D) Lifecycle management		
Q. 34)	The greater the thixotropy, the..............is physical stability of suspension			A
	A) higher	B) lower		
	C) equal	D) no change		
Q. 35)	The reaction of phenol with benzoyl chloride is known as			B
	A) Dows process	B) Schotten-Baumann reaction		
	C) Gatterman Reaction	D) Friedel-crafts Alkylation		
Q. 36)	The alkaloid used in gout treatment is:			D
	A) Vincristine	B) Etoposide		

	C) Topotecan	D) Colchicine		
Q. 37)	Which of the following is NOT a soft ionization technique?			D
	A) MALDI	B) ESI		
	C) Chemical ionization	D) Electron impact		
Q. 38)	The anti-hyperlipidemic drug that is a benzophenone derivative is			A
	A) Fenofibrate	B) Ezetimibe		
	C) Dalvastatin	D) Probucol		
Q. 39)	Which of the following is a prodrug:			C
	A) Hydralazine	B) Clonidine		
	C) Enalapril	D) Captopril		
Q. 40)	The Class 100 area for parenterals refers to:			A
	A) Aseptic area	B) Manufacturing area		
	C) Weighing area	D) Warehouse		
Q. 41)	Schedule T is related to:			B
	A) GMP for drug products	B) Ayurvedic manufacturing		
	C) Cosmetics	D) Surgical devices		
Q. 42)	CK-MB is the biomarker for:			A
	A) Myocardial infarction	B) Heart failure		
	C) Renal damage	D) Hepatic damage		
Q. 43)	Unequal distribution of colour is known as?			C
	A) Capping	B) Picking		
	C) Mottling	D) Lamination		
Q. 44)	Artificial invert sugar, an adulterant for honey is detected by			B
	A) Selivonanoff's test	B) Fiehe's test		
	C) Ninhydrine test	D) Fehling test		
Q. 45)	Antiemitic used to prevent aspiration in emergency surgery			C
	A) Ondansetrone	B) Promethazine		
	C) Metoclopromide	D) Ranitidine		
Q. 46)	Identify the BCS class where dissolution is rate-limiting			B
	A) Class I	B) Class II		
	C) Class III	D) Class IV		
Q. 47)	Acid value is important for:			D
	A) Carbohydrates	B) Alkaloids		
	C) Sugars	D) Oils and fats		
Q. 48)	Example of beta-lactamase inhibitor combination:			A
	A) Ampicillin + Sulbactam	B) Cefixime + Meropenem		
	C) Amoxicillin + Ciprofloxacin	D) Piperacillin alone		
Q. 49)	How many signals would be expected in the ^1H NMR spectrum of Propane?			B
	A) 1	B) 2		
	C) 3	D) 4		

Q. 50)	Which of the following hormone is also known as 'emergency hormone'?		A
	A) Adrenaline	B) Prolactin	
	C) Cortisol	D) Growth Hormone	