



**RAJJU SHROFF ROFEL  
UNIVERSITY, VAPI**

**Ph. D Entrance Test – 2023-24**

April 14, 2024 | Sunday

---

**Pharmacy**

## Section – I

### (Research Methodology)

Maximum Marks: 50

**Note:**

- Write only Option a/b/c/d in the given space against the question.
- Use Blue/ Black pen only.
- DO NOT write any thing on the question paper.

Attempt the following:

1.	Identifying causes of a problem and possible solution to a problem is			
	a.	Field Study	b.	Diagnosis study
	c.	Action study	d.	Pilot study
2.	Which of the following is not the method of Research?			
	a.	Survey	b.	Historical
	c.	Observation	d.	Philosophical
3.	In order to pursue the research, which of the following is priorly required?			
	a.	Developing a research design	b.	Formulating a research question
	c.	Deciding about the data analysis procedure	d.	Formulating a research hypothesis
4.	The first step of research is			
	a.	Selecting a problem	b.	Searching a problem
	c.	Finding a problem	d.	Identifying a problem
5.	Research can be classified as:			
	a.	Basic, Applied and Action Research	b.	Philosophical, Historical, Survey and Experimental Research
	c.	Quantitative and Qualitative Research	d.	All the above
6.	Fundamental research reflects the ability to:			
	a.	Synthesize new ideals	b.	Expound new principles
	c.	Evaluate the existing material concerning research	d.	Study the existing literature regarding various topics
7.	Authenticity of a research finding is its:			
	a.	Originality	b.	Validity
	c.	Objectivity	d.	All of the above
8.	A null hypothesis is			
	a.	when there is no difference between the variables	b.	the same as research hypothesis
	c.	subjective in nature	d.	when there is difference between the variables
9.	When a research problem is related to heterogeneous population, the most suitable sampling method is			
	a.	Cluster Sampling	b.	Stratified Sampling
	c.	Convenient Sampling	d.	Lottery Method
10.	Field-work-based research is classified as			
	a.	Empirical	b.	Historical
	c.	Experimental	d.	Biographical

11.	What is the first step in the research process?			
a.	Data analysis	b.	Literature review	
c.	Hypothesis testing	d.	Research design	
12.	Qualitative research is associated with			
a.	Emphasis on greater sample size	b.	Measurement of variables	
c.	Unstructured, flexible and open methodology	d.	A structured, rigid methodology	
13.	What differentiates qualitative and quantitative research methodology?			
a.	Sampling methods	b.	Data collection methods	
c.	Analysis methods	d.	All of the above	
14.	Which number is wrong in the series 2, 6, 15, 31, 56, 93?			
a.	6	b.	31	
c.	56	d.	93	
15.	Which of the following is the odd one from the given alternatives?			
a.	Driving	b.	Diving	
c.	Swimming	d.	Sailing	
16.	Sampling is advantageous as it _____			
a.	Saves time	b.	Helps in capital-saving	
c.	Increases accuracy	d.	Both (a) and (b)	
17.	Random sampling is helpful as it is _____.			
a.	Reasonably accurate	b.	Free from personal biases	
c.	An economical method of data collection	d.	All the above	
18.	Type-I Error occurs if _____			
a.	the null hypothesis is rejected even though it is true	b.	the null hypothesis is accepted even though it is false	
c.	both the null hypothesis as well as alternative hypothesis are rejected	d.	None of the above	
19.	The data of research is _____			
a.	Qualitative only	b.	Quantitative only	
c.	Both (a) and (b)	d.	Neither (a) nor (b)	
20.	Dramaturgical interviewing is carried out through _____			
a.	Debating	b.	Sampling	
c.	Case study	d.	Role playing	
21.	A college wants to give training in use of Statistical Package for Social Sciences (SPSS) to researchers. For this the college should organize:			
a.	Lecture	b.	Seminar	
c.	Workshop	d.	Conference	
22.	Books and records are the primary sources of data in:			
a.	clinical research	b.	historical research	
c.	laboratory research	d.	participatory research	
23.	What do you consider as the main aim of inter disciplinary research?			
a.	To over simplify the problem of research	b.	To bring out holistic approach to research	
c.	To create a new trend in research methodology	d.	To reduce the emphasis of single subject in research domain	
24.	To test null hypothesis, a researcher uses:			
a.	X	b.	t test	
c.	ANOVA	d.	factorial analysis	

25.	Second step in problem formulation is			
	a.	Statement of the problem	b.	Understanding the nature of the problem
	c.	Survey	d.	Discussions
26.	Which one is called non-probability sampling?			
	a.	Quota sampling	b.	Cluster sampling
	c.	Systematic sampling	d.	Stratified random sampling
27.	Which type of graph is best suited for displaying categorical data?			
	a.	Line graph	b.	Scatter plot
	c.	Histogram	d.	Pie chart
28.	What is the purpose of a line graph?			
	a.	To display the distribution of a continuous variable	b.	To represent proportions or percentages
	c.	To compare multiple groups or categories	d.	To show relationships between two continuous variables
29.	What does the X-axis represent in a line graph?			
	a.	Independent variable	b.	Frequency or count
	c.	Dependent variable	d.	Categories or groups
30.	Which of the following is a commonly used software program for qualitative data analysis?			
	a.	SPSS	b.	Excel
	c.	NVivo	d.	SAS
31.	Data Analysis is a process of?			
	a.	inspecting data	b.	cleaning data
	c.	transforming data	d.	All of the above
32.	The process of reviewing data is called _____			
	a.	Data Analysis	b.	Data Breaching
	c.	Data Interpretation	d.	None
33.	Amongst which of the following is / are the true about regression analysis?			
	a.	Describes associations within the data	b.	Modeling relationships within the data
	c.	Answering yes/no questions about the data	d.	All of the mentioned above
34.	The process of quantifying data is referred to as ____.			
	a.	Decoding	b.	Structure
	c.	Enumeration	d.	Coding
35.	CUP : LIP :: BIRD : ?			
	a.	BUSH	b.	GRASS
	c.	FOREST	d.	BEAK
36.	The reasoning which would be helpful in finding new knowledge of fact about the world is			
	a.	Speculative	b.	Inductive
	c.	Deductive	d.	Analogical
37.	Suppose you reason as follows: If I spend 15 hours per week studying research methods, I will earn an A in the course. I will study research methods at least 15 hours per week. Therefore, I will earn an A in the course. What type(s) of reasoning is this?			
	a.	inductive reasoning	b.	deductive reasoning
	c.	neither inductive nor deductive reasoning	d.	both inductive and deductive reasoning

38.	All trucks are polluting vehicles” is given as false, then which of the following statements can be immediately inferred to be true ?			
a.	Some trucks are polluting vehicles	b.	Some trucks are not polluting vehicles	
c.	No truck are polluting vehicles	d.	No polluting vehicles are truck	
39.	What is the major attribute of Correlation Analysis?			
a.	Association among variables	b.	Difference among variables	
c.	Regression among variables	d.	Variations among variables	
40.	The format of thesis writing is the same as in			
a.	Writing of Seminar representation	b.	Preparation of research paper/article	
c.	A research dissertation	d.	Presenting a workshop/conference paper	
41.	The main aim of the scientific method in the research field is to _____			
a.	Improve data interpretation	b.	Confirm triangulation	
c.	Introduce new variables	d.	Eliminate spurious relations	
42.	A researcher is interested in studying the prospects of a particular political party in an urban area. So, what tool should he prefer for the study?			
a.	Rating Scale	b.	Interview	
c.	Questionnaire	d.	Schedule	
43.	What are the core elements of a dissertation?			
a.	Introduction; Data Collection; Data Analysis; Conclusions and Recommendations	b.	Executive Summary; Literature Review; Data Gathered; Conclusions; Bibliography	
c.	Research Plan; Research Data; Analysis; References	d.	Introduction; Literature Review; Research Methodology; Results; Discussions and Conclusions	
44.	How can we enhance the research objective?			
a.	By making it more valid	b.	By making it more reliable	
c.	By making it more impartial	d.	All of the above	
45.	What is the best-suited name for a process that doesn't necessitate experimental research?			
a.	Manipulation	b.	Controlling	
c.	Content analysis	d.	Observation	
46.	What does the term 'longitudinal design' mean?			
a.	A study completed far away from where the researcher lives.	b.	A study completed over a distinct period of time to map changes in social phenomena.	
c.	A study which is very long to read	d.	A study with two contrasting cases	
47.	Which of the following should be included in a research proposal?			
a.	Your choice of research methods and reasons for choosing them.	b.	Your choice of research methods and reasons for choosing them.	
c.	Your academic status and experience.	d.	All of the above.	
48.	Which of the following should you think about when preparing your research?			
a.	Your sample frame and sampling strategy.	b.	The ethical issues that might arise.	
c.	Negotiating access to the setting.	d.	All of the above.	

49.	A review of the literature prior to formulating research questions allows the researcher to :			
	a.	Provide an up-to-date understanding of the subject, its significance, and structure	b.	Guide the development of research questions
	c.	Present the kinds of research methodologies used in previous studies	d.	All of the above
50.	Adopting ethical principles in research means:			
	a.	Avoiding harm to participants	b.	The researcher is anonymous
	c.	Deception is only used when necessary	d.	Selected informants give their consent

\*\*\*\*\*



RAJJU SHROFF ROFEL  
UNIVERSITY, VAPI

## Section – II

### (Pharmacy)

Maximum Marks: 50

Attempt the following:

1.	One thousand picograms are equal to:			
	a.	One nanogram	b.	One milligram
	c.	One microgram	d.	One gram
2.	Quinolones should not be administered with:			
	a.	Dairy products	b.	Ferrous sulphate
	c.	Antacids	d.	All of the above
3.	The average pH of urine is about:			
	a.	5.0	b.	6.0
	c.	8.0	d.	7.0
4.	In Drug & Cosmetic Act and Rules, the schedule relating to clinical trial of new drug is:			
	a.	Schedule X	b.	Schedule Y
	c.	Schedule J	d.	Schedule M
5.	Anderson apparatus is designed to determine:			
	a.	Stability of an emulsion	b.	Viscosity
	c.	Flow of liquids	d.	Particle size
6.	Specific antidote in paracetamol poisoning is:			
	a.	N-acetyl-p-benzoquinone imine	b.	N-acetylcysteine
	c.	Diacetyl- monoxime (DAM)	d.	Flumezenil
7.	Steroidal glycoalkaloid is present in:			
	a.	<i>Dipteryx odorata</i>	b.	<i>Fagopyrum esculentum</i>
	c.	<i>Ammi visnaga</i>	d.	<i>Solanum khasianum</i>
8.	Eugenol is present in:			
	a.	Ginger	b.	Coriander
	c.	Clove	d.	Fennel
9.	Listerine mouthwash is:			
	a.	Emulsion	b.	Suspension
	c.	Solution	d.	Dispersion
10.	Concentrated sulphuric acid is about			
	a.	4 N	b.	6 N
	c.	16 N	d.	36 N
11.	Atoms, molecules, or ions of similar size containing the same number of atoms and valence electrons are said to be:			
	a.	Isotopes	b.	Isosteres
	c.	Isomers	d.	Isobars
12.	In one of the following compounds $\beta$ -lactam ring is strategically fused to a 6-membered dihydrothiazine ring system			
	a.	Cephalexin	b.	Cloxacillin
	c.	Chlorthiazide	d.	Chloamphenicol

13.	Dilakyl diethylmalonate when treated with urea in presence of sodium ethoxide gives:			
	a.	Sulfonamide	b.	Morphine
	c.	Barbiturates	d.	Diazepam
14.	_____ is an example of live- attenuated virus vaccine			
	a.	Varicella (Chicken pox) vaccine	b.	Measles, mumps, & rubella (MMR) vaccine
	c.	Oral poliovirus or sabin vaccine	d.	All of the above
15.	The cardiovascular centre is present in			
	a.	Thalamus	b.	Medulla oblongota
	c.	Cerebellum	d.	Cerebrum
16.	The prime pathway for the degradation of fatty acids is mitochondrial fatty acid _____			
	a.	$\alpha$ - oxidation	b.	$\beta$ - oxidation
	c.	$\gamma$ - oxidation	d.	$\delta$ - oxidation
17.	Unwanted effects: nephrotoxicity and ototoxicity are caused commonly by:			
	a.	Penicillin	b.	Chloramphenicol
	c.	Gentamicin	d.	Ethambutol
18.	$\beta_1$ - adrenoceptors are found in			
	a.	Bronchi	b.	Liver
	c.	Heart	d.	Bladder
19.	Following enzyme assay in serum is specific for liver cell injury			
	a.	SGPT (ALT)	b.	Alkaline phosphatase
	c.	Cholinesterase	d.	$\beta$ - lactamase
20.	5HT <sub>3</sub> - receptor anatagonist used as antiemetic is:			
	a.	Atropine	b.	Ondansetron
	c.	Buspirone	d.	None of the above
21.	The coating material used in the preparation of enteric coated tablets is:			
	a.	Ethyl Cellulose	b.	Sugar
	c.	Polyethylene glycol	d.	Hydroxypropyl methylcellulose pthalate
22.	The process of extraction of vegetable drugs with cold or boiling water for a short time is called as:			
	a.	Oxymel	b.	Irrigation
	c.	Infusion	d.	Lotion
23.	Caffeine chemically is:			
	a.	1,3,7- trimethyl xanthine	b.	1,3- dimethyl xanthine
	c.	1,3,7- trimethyl xanthone	d.	3,7- dimethyl xanthine
24.	Liposomes are:			
	a.	Solid nanoparticles	b.	Uni- or multilayered vesicles of phospholipids
	c.	Nano-emulsions	d.	Chylomicrons
25.	Amaranth is _____ in colour			
	a.	Red	b.	Purple
	c.	Green	d.	Blue



26.	The concentration of sucrose in simple syrup as per IP			
	a.	55.7 w/w	b.	85.5 w/w
	c.	66.7 w/w	d.	60.7 w/w
27.	Sodium benzoate is used as:			
	a.	Anti-foaming	b.	Humectant
	c.	Anti-oxidant	d.	Preservative
28.	The most intense peak in mass spectrum is:			
	a.	Base peak	b.	Metastable peak
	c.	Parent peak	d.	Molecular ion peak
29.	Source of Isabgol is:			
	a.	Plantago seeds	b.	Mustard leaves
	c.	Linseed Seeds	d.	Acacia root
30.	On commercial scale emulsion is prepared by:			
	a.	Freezing	b.	Homogenisation
	c.	Centrifugation	d.	Acetic dialysis
31.	Mayer's test confirms the presence of:			
	a.	Alkaloids	b.	Tannins
	c.	Carbohydrates	d.	Terpenes
32.	Levonorgestrel is a:			
	a.	Prolactin derivative	b.	Estrane
	c.	Glucocorticoids	d.	Prostaglandins
33.	Which of the following is antidiarrhoeal:			
	a.	Calamine	b.	Charcoal
	c.	Zinc Oxide	d.	Kaolin
34.	Peppermint oil is synonym of:			
	a.	Chenopodium oil	b.	Mentha oil
	c.	Lemongrass oil	d.	Cardamom oil
35.	Which of the following are not suitable for sterilisation with autoclave:			
	a.	Oil	b.	High-density polyethylene (HDPE) labware
	c.	Wax	d.	All of the above
36.	Vitamin B <sub>6</sub> is a derivative of:			
	a.	Pyrimidine	b.	Pyrazine
	c.	Purine	d.	Piperazine
37.	Paracetamol overdose is most likely to cause			
	a.	Nephrotoxicity	b.	Hepatotoxicity
	c.	Cardiotoxicity	d.	Ototoxicity
38.	The botanical name of Gudmar is:			
	a.	<i>Digitalis purpurea</i>	b.	<i>Gymnema sylvestre</i>
	c.	<i>Cedrus deodara</i>	d.	<i>Solanum xanthocarpum</i>
39.	Identify potassium sparing diuretic from the following:			
	a.	Torse mide	b.	Ethacrynic acid
	c.	Spironolactone	d.	Chlorthalidone

40.	Metronidazole is prescribed in treatment of:			
	a.	Leprosy	b.	malaria
	c.	Amoebiasis	d.	helminths
41.	Among the following preparations, which one would be the most irritating to the eye?			
	a.	Purified water	b.	0.7% NaCl solution
	c.	0.9% NaCl solution	d.	1.0% NaCl solution
42.	Official Indian Drug Regulatory Agency is:			
	a.	CCSEA	b.	CDSCO
	c.	USFDA	d.	FSSAI
43.	Which of the following solvents is not used in NMR spectroscopy?			
	a.	Dimethyl sulfoxide	b.	Carbon disulfide
	c.	Chloroform-d	d.	Trifluoroacetic acid
44.	In reversed phase HPLC, the mobile and stationary phase, respectively are			
	a.	Polar and nonpolar	b.	Nonpolar and polar
	c.	Both polar	d.	Both nonpolar
45.	Which of the following is hydrazine MAO- inhibitor?			
	a.	Cyclopropylamine	b.	Moclobemide
	c.	Selegiline	d.	Phenelzine
46.	Insufficient spreading of the coating solution before drying during coating process causes _____ on tablet.			
	a.	Cracking effect	b.	Blistering effect
	c.	Orange peel effect	d.	Chipping effect
47.	Which one of the following substance will decrease the surface tension of the water?			
	a.	Sucrose	b.	Lecithin
	c.	Ethanol	d.	Sodium chloride
48.	Tacrolimus is an example of:			
	a.	Immunostimulant	b.	Immunosuppressant
	c.	Neuroprotector	d.	Cardioprotector
49.	Which of the following is an anionic-surfactant?			
	a.	Sodium lauryl sulphate	b.	Benzalkonium chloride
	c.	Cetylpyridinium chloride	d.	Polyethoxylated tallow amine
50.	Acetylcholinesterase inhibitor that is only used for the diagnosis of myasthenia gravis			
	a.	Traxane	b.	Pyridostigmine
	c.	Edrophonium	d.	Neostigmine

**Answer Key (Section 1)**

Que No.	Answer	Que No.	Answer	Que No.	Answer	Que No.	Answer	Que No.	Answer
1.	B	11.	B	21.	C	31.	D	41.	D
2.	C	12.	C	22.	B	32.	C	42.	C
3.	B	13.	D	23.	B	33.	B	43.	D
4.	D	14.	D	24.	C	34.	C	44.	D
5.	D	15.	A	25.	B	35.	D	45.	A
6.	B	16.	D	26.	A	36.	B	46.	B
7.	C	17.	D	27.	D	37.	B	47.	A
8.	A	18.	A	28.	D	38.	B	48.	D
9.	B	19.	C	29.	A	39.	A	49.	D
10.	A	20.	D	30.	C	40.	C	50.	A

**Section II**

Que No.	Answer	Que No.	Answer	Que No.	Answer	Que No.	Answer	Que No.	Answer
1.	a	11.	b	21.	d	31.	a	41.	b
2.	d	12.	a	22.	c	32.	b	42.	b
3.	d	13.	c	23.	a	33.	d	43.	d
4.	b	14.	d	24.	b	34.	b	44.	a
5.	d	15.	b	25.	a	35.	d	45.	d
6.	b	16.	b	26.	c	36.	a	46.	c
7.	d	17.	c	27.	d	37.	b	47.	b
8.	c	18.	c	28.	a	38.	b	48.	b
9.	a	19.	a	29.	a	39.	c	49.	a
10.	d	20.	b	30.	c	40.	c	50.	c