1	1	While filling hard gelatin capsules such glidants as 0,1% - 0,3% aerosil or magnesium stearate along with 0,5% - 1% talc are often added to the filling agent in order to improve the following properties:	**Flowability**	Homogeneity	Regulation of moisture content	Homogeneity of mixing	Ability to contact molding
2	1	For granule drying different types of dryers are used. The dryer SP-30 relates to the following type:	**With fluidized bed**	Sublimation	Infrared	With silica gel column	With a forced air circulation
3	1	Pharmaceutical plants produce enteric-coated tablets. According to the requirements of the State Pharmacopoeia of Ukraine, the coating mustn't disintegrate in the acidic medium within the following period:	**1 hour**	2 hours	4 hours	3 hours	5 hours
4	1	A tablet shop produces trituration tablets. What quality indicators ARE NOT relevant for these tablets?	**Abrasion, resistance to crushing**	Disintegration and dissolution	Homogeneity of dosage	Homogeneity of content	Microbiological purity
5	1	Grinding equipment is classified by the way of grinding. What kind of machines does a roller crusher relate to?	**Crushing**	Cutting	Abrasive	Impact	Impact-centrifugal
6	1	One of the tablet coatings	**Bowels**	Stomach	Oral cavity	Rectum	-

		is enterosoluble capsule. They get solved in:					
7	1	Quality control of tablets produced at a pharmaceutical enterprise involves quantitative determination of such subsidiary substances as talc and aerosil. What method is applied for such determination?	**Gravimetric**	Titrimetric	Photocolorimetric	Spectrophotometric	Chromatographic
8	1	In the process of pressing the tablets adhere to the pressing tool. The technological error is the lack of:	**Lubricants**	Adhesive substances	Disintegrants	Diluents	Dyes
9	1	Powders that quickly enter into a reaction in presence of water and emit carbon dioxide relate to the following group:	**Effervescent powder**	Soluble powder	Powders for oral use	Nasal powders	Powders for external use
10	1	A pharmaceutical factory produces tablets of sodium chloride. What is the method of their production?	**Direct compression without additional substances**	Moulding	Direct compression with the addition of excipients	Wet granulation prior to compression	Dry granulation prior to compression
11	1	One of the recent industrial medical forms that is used in pediatric practice and intended for young children unable of swallowing tablets is:	**Tubatines**	Dragee	Spansules	Gelatin microcapsules	Granules
12	1	The quality of tablets is	**Basket**	Flow-through	Friabilator	Paddle	-

		assessed by various factors. What instrument is used for the tablet disintegration test?	**apparatus**	device			
13	1	The glidants aerosil or magnesium stearate together with talc are added to the excipients in hard gelatin capsules in order to facilitate the following property:	**Powder flowability**	Homogenity	Moisture regulation	Homogeneous mixing	Compactibility
14	1	Which group of adjuvants includes polyvinyl alcohol used under the SPhU?	**Prolongators**	Preservatives	pH adjusters	Antioxidants	Isotonizing agents
15	1	An analytical chemist of the quality control department of a pharmaceutical plant has to determine the average weight of glibenclamide tablets. How many tablets should be tested for this purpose?	**20**	10	5	50	30
16	1	Granulation is used to increase:	**Flowability**	Breakup	Dissolution	Volume density	Porosity
17	1	What equipment is necessary to make trituration tablets?	**Special tabletting machine for forming tablets**	Dragee pan	Double sided tabletting press machine	Rotary tabletting machine	Film coater
18	1	What factors affect tablet disintegration?	**Amount and nature of disintegrating agents**	Poor flowability	High specific gravity of powders	Tablet powder contains lamellar crystals	Heterogeneity of granulated material

19	1	A pharmaceutical company plans to produce hexamethylenetetramine tablets. What production method is optimal for such tablets?	**Direct compression with adjuvants**	Forming	Direct compression without adjuvants	Compression preceded by wet granulation	Compression preceded by dry granulation
20	2	Stability of suspensions can be enhanced by substances which increase the viscosity of the dispersion medium. Specify the substance that exhibits such properties:	**Glycerol**	Purified water	Ethanol	Dimexid	Ether
21	2	Suspensions as heterogenous systems can be characterized by kinetic and sedimentary instability. What substance is used for increasing suspension stability with hydrophobic substances?	**Gelatose**	Sodium chloride	Boric acid	Sodium sulphate	Glucose
22	2	A pharmaceutical enterprise produces water solutions. The solution of the following substance is produced by method of chemical interaction and electrochemically:	**Aluminum hydroxide acetate**	Plumbum hydroxide acetate	Calcium gluconate	Polyvinyl alcohol	Potassium arsenite
23	2	A pharmaceutic plant producing ointments can use the following	**Screw and piston dosing machines**	Rezepin automatic machine	Rotary machines	Eccentric machines	Disc machines

		equipment at the packing stage:					
24	2	A pharmaceutical plant produces suppositories. What is the best method for their manufacturing in industrial quantities?	**Outpouring**	Pumping-out	Pressing	Stamping	Lyophilization
25	2	A chemical department produces alcohol solution of boric acid. What filters are used for filtration of this solution?	**Pressure filters**	Paper filter	Nutsch filter	Bag filter	Membrane filter
26	2	A pharmaceutical enterprise produces ointments. What base is applied for production of sulfur ointment simple?	**Emulsion**	Vaseline	Base "For ophthalmic ointments"	Lanolin	Polyethylene glycol
27	2	A pharmaceutical factory produces suspensions and emulsions. Specify the equipment which is used for dispersion and mixing in the liquid medium:	**Rotor-pulsation apparatus, colloid mixers**	Drum mixers	Oscillating mixers	Anchor mixers	Gate mixers
28	2	The simple sugar syrup consists of:	**64 parts of sugar and 36 parts of water**	73 parts of sugar, 22 parts of water, 5 parts of 90% alcohol	50 parts of sugar and 50 parts of water	65 parts of sugar, 33 parts of water, 2 parts of 90% alcohol	45 parts of sugar and 55 parts of water
29	2	Pharmaceutical plants produce ointments on various bases. Specify the ointment base having the most pronounced osmotic properties:	**Polyethylene oxide**	Silicon	Vaseline, lanolin	Methyl cellulose	Hydrogenated fat
30	2	The ointment workshop	**Homogenizatio**	Preparation of	Standardization	Pre-packing	Packaging

		of a pharmaceutical plant launches production of a new ointment. Specify the manufacturing operation that ensures equal distribution of the drug substance in the base:	**n**	the base			
31	2	Suppositories are prepared by various methods such as rolling, pouring, pressing. What base is used in the pouring method?	**Butyrolum**	Paraffin	Cocoa butter	Vaseline	Coriander oil
32	2	To increase hydrophobic suspension stability a stabilizer is added. Name this stabilizer	**Polysorbate 80 (Tween 80)**	Sodium chloride	Dimethyl sulfoxide	Glucose	Vaseline oil
33	2	A factory workshop producing suspensions and emulsions is going to develop the manufacture of new drugs. What mechanisms can be used for the ultrasound processing of drugs?	**Liquid whistle, magnetostrictiv e source**	Dismembrator, electrical impulse plasmolyzer	Disintegrator, liquid whistle	Rotor-pulsation apparatus, dismembrator	Centrifugal mixer with rotating housing
34	3	Aerosol production involves application of different groups of propellents. What propellents relate to the group of compressed gases?	**Nitrogen, nitrous oxide, carbon dioxide**	Freons	Propane, butane, isobutane	Vinyl chloride, methyl chloride	Methylene chloride, ethylene chloride
35	3	One of the quality	**Ampoule**	Capillary	Ampoule	Ampoule drying	Ampoule

		indicators for finished ampoules is lack of residual stress in the glass. Which operation at the stage "Preparation of ampoules to be filled" eliminates this imperfection?	**annealing**	opening	washing		sterilization
36	3	Which of the listed methods of filling ampoules with injectable solutions can protect the capillaries from contamination with thick and viscous solutions?	**Syringe method**	Vacuum method	Turbo-vacuum method	Steam condensing method	Solution squeezing method
37	3	Production of injection solutions involves an operation of solution filtration. What filters are used for sterile filtration?	**Filter candles**	Nutsch filters	Filter developed by the Kharkiv Chemo-pharmaceutic Research Institute	Pressure filters	Mushroom filter
38	3	Companies producing injectable dosage forms apply different methods of ampoule sealing. Sealing against a jet of inert gases (nitrogen, argon, carbon dioxide) is suitable for the following injection solutions:	**Easily oxidable**	Viscous	Thermostable	Hydrolytically unstable	Photosensitive
39	3	Injection solutions of salts derived from weak acids and strong bases require stabilization.	**0,1M sodium hydroxide solution**	0,1 M acid chloride solution	Trilon B	Ascorbic acid	Buthylhydroxyto luene

		What stabilizers are used for these solutions?					
40	3	The ampoule workshop produces solutions for injections. The aminophylline solution for injections relates to the following group of solutions:	**Solutions are not subject to heat sterilization**	Solutions of easily oxidizable substances	Solutions of salts composed of weak bases and strong acids	Solutions of salts composed of strong bases and weak acids	Solutions of substances requiring special purification
41	3	A pharmaceutic plant producing aerosol forms uses liquefied gases as propellents. Which of the following substances relates to the group of liquefied gases?	**Freons**	Nitrogen	Nitrous oxide	Methylene chloride	Ethylene chloride
42	3	Sterilization methods used for the preparation of drugs under aseptic conditions can be differentiated into physical, mechanical, and chemical ones. Specify the chemical method of sterilization:	**Addition of preservatives**	Dry heat sterilization	Radiation sterilization	Pressure steam sterilization	UV light sterilization
43	3	Specify the indicator which measures the total contribution of various solutes to the osmotic pressure of the solution:	**Osmolality**	Isohydricity	Isotonicity	Isoviscosity	Apyrogenicity
44	3	Ampules are produced of glass with appropriate heat resistance. An ampule would meet the	**Thermal shock resistance**	Easy cutting of capillaries	Quality ampule sealing	Withstanding the stresses during production and transportation	Protection of light-sensitive materials

		requirements of technical standards if the ampule glass has the following characteristic:					
45	3	Ampule quality control involves testing for chemical resistance. What methods are used to test this indicator?	**Various acid-base indicators, pH meter, gravimetric methods**	Visual, gravimetric methods	Photoelastic method	Autoclaving followed by titration with a solution of hydrochloric acid	Exposing the glass samples to the action of sodium carbonate and sodium hydrocarbonate solutions
46	3	Ampule workshop of a pharmaceutical factory produces the procaine hydrochloride solution. This solution is stabilized by adding:	**0,1 mol/l of hydrochloric acid solution**	0,1 mol/l of sodium hydroxide solution	0,1 mol/l of sodium hydrogen carbonate solution	20,0 of sodium hydrogen carbonate	1,5 g of amino-propylene glycol
47	3	The aerosol workshop of a pharmaceutical plant uses various groups of propellants in the production. What propellants relate to the group of volatile organic solvents?	**Methylene chloride, ethylene chloride**	Freon (CFCs)	Propane, butane, isobutane	Vinyl and methyl chloride	Carbon dioxide
48	3	Quality of ampouled injection solutions is tested as to various parameters. How many ampullas are to be checked for assessing the quality of sealing (hermeticity)?	**100%**	97%	80%	75%	50%

49	3	Which of the following ophthalmic dosage forms is produced only industrially?	**Ophthalmic inserts**	Ophthalmic ointments	Eye drops	Eye washes	Eye rinses
50	3	An ampoule workshop produces injection solutions. What filters are used for sterile filtering of injection solutions?	**Membrane and depth filters**	Druck (pressure) filter	Nutsche (vacuum) filter	Filter designed at the Kharkiv Chemico-Pharmaceutical Research Institute	Pressure leaf filter
51	3	Injection solutions of weak acids and strong bases must be stabilized. What stabilizers are used for such solutions?	**0,1M sodium hydroxide solution**	0,1 M hydrochloric acid solution	Sodium edetate (Disodium EDTA, Trilon B)	Ascorbic acid	Butyloxytoluene
52	3	Efficiency of aerosol therapy is to considerable extent determined by the size of disperse particles. What factor determines the size of aerosol particles during dispersion of an aerosol?	**Exit port diameter, propellent vapour pressure**	Reduction range, container quantity	System homogeneity, dispersion velocity	Percentage of phase, filling temperature	Fractional composition, containers filling method
53	3	Activated carbon is used in production of injection solutions for:	**Purification**	Buffer system creation	Antioxidant properties increasing	Chemical resistance of ampoule's glass increasing	Ampoules residual stress relaxation
54	3	What stage is the last in making injection solutions?	**Labeling**	Sterilization	Filtering	Qualitative control	Quantitative control
55	3	Tyndallization is used at a pharmaceutical factory as one of sterilization methods for thermolabile	**Triple heating of solution to 40-600C with 24-hour-long**	Autoclaving at 119-1210C with pressure at 1,0-1,1 atm	Sterilization with flowing steam at 1000C	Sterilization with dry heat at 180-200 0C for a lengthy period of	Sterilization with high-frequency and microwave

		substances. What is the essence of this method?	**intervals in between for thermostating**			time	frequency current
56	3	Name the way of injectabulettae application.	**For injection solutions of drugs**	Peroral	For implantations	Vaginal	Sublingual
57	3	Hexamethylenetetramine solution sterility is achieved by:	**Filtering through bacterial filters**	Preserving agents	Gas diffusion sterilization	Tyndallization method of sterilization	Pressure steam sterilization
58	4	A phytochemical production unit produces biogenic stimulators out of different raw materials. Specify the biogenic stimulators of organo-mineral origin:	**Peloidinum, Humisolum, Torfotum, Fibs pro injectionibus**	Extractum Aloes fluidum, Linimentum Aloes, Succus Aloes, Biosedum	Vitreous body, Placenta injection, Plasmolum, Solcoseryl	Extractum Aloes fluidum, Linimentum Aloes, Plasmolum	Peloidinum, Humisolum, Torfotum, Plasmolum, Solcoseryl
59	4	Phytochemical workshop of a pharmaceutical plant produces biogenic stimulators from different raw materials. Specify the biogenic stimulators of animal origin:	**Vitreous body, placental suspension for injections, plasmolum, solcoseryl**	Liquid aloe extract, aloe liniment, aloe juice, biossedum	Peloidinum, humisolum, torfotum, Fibs pro injectionibus	Liquid aloe extract, aloe liniment, plasmolum	Peloidinum, humisolum, torfotum, plasmolum, solcoseryl
60	4	A pharmaceutical factory produces herbal juice out of fresh raw material. What operation should be performed at the stage of juice purification?	**Heating followed by quick cooling**	Sedimentation	Adsorption	Filtration	Crystallization
61	4	A pharmaceutical plant produces spissum extract with 0,25% ammonia solution used as an extractant. This is a	**Licorice**	Sagebrush	Valerian	Male fern	Motherwort

		spissum extract of:					
62	4	Phytochemical workshop of a factory manufactures pancreatin. What is the source material for obtaining pancreatin?	**Pancreas of pigs or cattle**	Gastric mucosa of pigs	Lungs of cattle	Heart of cattle	Egg white
63	4	Galenic preparations are produced by using various extractants. What extractants require pressure as a prior condition for the extraction process?	**Liquefied gases**	Ethanol	Methyl alcohol, acetone	Vegetable oils	Dichloroethane, chloroform
64	4	A pharmaceutical company produces concentrated extracts. Specify the concentration of ethanol in the extractant required for the production:	**20-40%**	90-96%	70-75%	50-60%	70-90%
65	4	The phytochemical workshop of a pharmaceutical plant manufactures liquid extracts. How many volume parts of the liquid extract can be produced from one weight part of herbal raw material in compliance with the State Pharmacopoeia?	**1 part**	0,5 part	10 parts	5 parts	3 parts
66	4	The phytochemical workshop of a pharmaceutical plant	**Vitreous body, placental suspension for**	Liquid aloe extract, aloe liniment, aloe	Peloidinum, humisolum, torfotum, Fibs	Liquid aloe extract, aloe liniment,	Peloidinum, humisolum, torfotum,

		produces biogenic stimulators from different starting materials. Specify the biogenic stimulators of animal origin:	**injections, plasmolum, solcoseryl**	juice, biossedum	Rro injectionibus	plasmolum	plasmolum, solcoseryl
67	4	The galenical preparations workshop produces belladonna tincture. Specify the required ratio for this dosage form:	**1:10**	1:5	1:20	1:2	1:1
68	4	Phytochemical workshop of a factory manufactures pancreatin. What is the starting material for obtaining pancreatin?	**Pancreas of pigs or cattle**	Gastric mucosa of pigs	Lungs of cattle	Heart of cattle	Egg white
69	4	In the production of dry extracts the drying of purified extracts may not involve condensation of the liquid extractions. What equipment should be used in this case?	**Spray drier**	Shelf drier	Vacuum oven	Thermostat	Rotary one-flow drier
70	4	Standard raw herbal material of lily-of-the-valley is obtained by drying it at a temperature of 50-60oC in order to prevent the possibility of the following biochemical process:	**Enzymatic hydrolysis of cardiac glycosides**	Oxidation of phenolic compounds	Volatilization of essential oils	Oxidation of resins	Oxidation of terpenoids
71	4	Plantaglucide is used to treat peptic ulcer disease	**Plantago major**	Plantago psyllium	Plantago media	Plantago stepposa	Plantago lanceolata

		of stomach and duodenum with normal acidity and hypoacidity. This drug is obtained from the following plant:					
72	4	Quality of dried extracts is assessed according to several criteria. Specify the highest acceptable amount of moisture in dried extracts according to the State Pharmacopoeia of Ukraine.	**5%**	25%	20%	75%	95%
73	4	A pharmaceutical enterprise produces neogalenic preparations. What preparation is produced by the Soxhlet circulation apparatus?	**Adonisidum**	Digoxin	Corglyconum	Lantosidum	Celanidum
74	4	What ratio is used in making hawthorn tincture?	**1:10**	1:2	1:5	1:20	1:1000