

CBSE | DEPARTMENT OF SKILL EDUCATION

FOUNDATION SKILLS FOR SCIENCES (PHARMACEUTICALS AND BIOTECHNOLOGY) [SUBJECT CODE-421]

MARKING SCHEME FOR CLASS X (SESSION 2024-2025)

Max. Time: 2Hours

Max. Marks: 50

General Instructions:

1. Please read the instructions carefully.
2. This question paper consists of 21 questions in two sections – A and B.
3. Section – A has objective type questions where as Section B Contains subjective type questions.
4. Out of given (5+16)=21 questions, a candidate has to answer (5+10)=15 questions in the allotted (maximum) time of 2 hours.
5. All questions in a particular section must be attempted in correct order.
6. **SECTION A -OBJECTIVE TYPE QUESTIONS (24 MARKS):**
 - i. This section has 5 questions.
 - ii. There is no negative marking.
 - iii. Do as per the instruction given.
 - iv. Marks allotted are mentioned in each questions/part.
7. **SECTION B- SUBJECTIVE TYPE QUESTIONS (26 MARKS):**
 - i. This section has 16 questions
 - ii. A candidate has to do 10 questions
 - iii. Do as per the instruction given.
 - iv. Marks allotted are mentioned against each question/part.

SECTION –A : OBJECTIVE TYPE QUESTIONS

Q.No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap.No.	Page no. of source material	Marks
Q. 1	Answer any 4 out of the given 6 questions on Employability Skills (1 x 4 = 4 marks)				
i.	Channel	C.B.S.E. Study Material	1	4	1
ii.	Self Awareness.	C.B.S.E. Study Material	2	40	1
iii.	Emotional Awareness	C.B.S.E. Study Material	2	43	1
iv.	Operating Software	C.B.S.E. Study Material	3	64	1
v.	Entrepreneurs	C.B.S.E. Study Material	4	86	1
vi.	17	C.B.S.E. Study Material	5	106	1
Q.2	Answer any five out of given 6 questions - (1X5=5 Marks)				
i.	Surveys	C.B.S.E study Material	1	13	1
ii.	Standard Operating Procedures	C.B.S.E study Material	2	26	1
iii.	Erlenmeyer Flask	C.B.S.E study Material	3	43	1
iv.	Indicators	C.B.S.E study Material	4	57	1
v.	Regulators Authorities	C.B.S.E study Material	5	71	1
vi.	Patents	C.B.S.E study Material	6	108	1

Q.3.	Answer any 5 out of 6 questions - (1X5=5 Marks)				
i.	Retail Chemist Prescription Audit	C.B.S.E study Material	1	11	1
ii)	Safety glasses	C.B.S.E study Material	2	27	1
iii.	Chemistry Laboratory	C.B.S.E study Material	3	41	1
iv.	Dyes	C.B.S.E study Material	4	58	1
v.	Stereo chemistry	C.B.S.E study Material	5	73	1
vi.	Process Innovation	C.B.S.E study Material	6	86	1
Q.4.	Answer any 5 out of the given 6 questions - (1X5=5 Marks)				
i.	a) Product Innovation b) Process Innovation	C.B.S.E study Material	6	86	1
ii.	Goods Manufacturing Practices	C.B.S.E study Material	5	76	1
iii.	Flammable liquids	C.B.S.E study Material	4	58	1
iv.	Borosilicate test tube	C.B.S.E study Material	3	51	1
v.	Quality standards are guidelines or criteria used to ensure that products or services meet a certain level of quality.	C.B.S.E study Material	2	32	1
vi.	Print Advertising	C.B.S.E study Material	1	21	1
Q.5.	Answer any five questions out of 6 questions = (1X5=5 Marks)				
i.	Product, Price, Place and Promotion	C.B.S.E study Material	1	19	1
ii.	Factory workers should check the materials required for works and ensures that they are in good conditions.	C.B.S.E study Material	2	27	1
iii.	Test tube, Beaker.	C.B.S.E study Material	3	42	1
iv.	Toxic Substances.	C.B.S.E study Material	4	58	1
v.	Isomerism is when molecubs have the sake chemical formula but different structures.	C.B.S.E study Material	5	73	1
vi.	a) Pure/ Basic/ Fundamental Research. b) Applied Research.	C.B.S.E study Material	6	89	1

SECTION – B, - SUBJECTIVE TYPE QUESTIONS

Q.No.	QUESTION	Source Material (NCERT/PSSCIVE/ CBSE Study Material)	Unit/ Chap.No.	Page no. of source material	Marks
Answer any 4 out of the given 6 questions on Employability Skills 20 – 30 words – (2X3=6)					
Q.6.	7Cs are – clear, Concise, Concrete, Correct, Coherent, Complete and Courteous.	C.B.S.E study Material	1	20	2
Q. 7.	<u>Interest</u> – a) Things that you like to do in your free time that make you happy. b) Things you want to learn or would like to do in future. <u>Abilities</u> – a) An accuired or netural capacities. b) Enable you to perform a particular job or task with considerable proficiencies.	C.B.S.E study Material	2	48	2
Q.8.	The ways in which Personal information on computer can be baked – a) Theft – Physical, Identity, Software Privacy – b) Virus – Worms, Trojan Horse	C.B.S.E study Material	3	80	2
Q.9.	a) A misconception we have is that only a person having a big business is entrepreneur. b) A misconception we have is that entrepreneurs are born not made. .	C.B.S.E study Material	4	97	2
Q.10.	The major problems related to sustainable development – a) Food – The amount of rich, fertile land needed to grow crops, such as wheat, rice etc. is becoming less. b) Water – We use fresh water from rivers and ponds for drinking and cleaning but dump garbage into them.	C.B.S.E study Material	5	105	2

Answer any 4 out of the given 6 questions in 20 - 30 words - (2X4=8)

Q.11.	<p>Importance of Sales and <u>Marketing in Business</u> -</p> <p>a) Product knowledge and Education - Sales representatives in the life sciences industry possesses extensive knowledge about the products they promote.</p> <p>b) <u>Advancing Medical Innovation</u> - Life Sciences Sales representatives in produces health care professionals to the latest innovations and technologies in the field.</p>	C.B.S.E study Material	1	9	2
Q.12.	<p>The two key features of Quality Management System are -</p> <p>i) <u>Regulatory Compliance</u> - The life sciences industry is highly regulated and QMS is essential for ensuring compliance with regulations.</p> <p>ii) <u>Good - Manufacturing practice (GMP)</u> - It is the set of guidelines for manufacturing pharmaceuticals food and medical device.</p>	C.B.S.E study Material	2	33	2
Q.13.	<p>a) <u>Pipettes</u> - They are used for measuring and transferring small amount of liquids.</p> <p>b) <u>Burettes</u> - Burettes are long, thin glass tubes with a valve at the bottom and used for measuring and dispensing precise amounts of liquids.</p>	C.B.S.E study Material	3	43	2
Q.14.	<p>i) <u>Name and description</u> - The label should include the name of the chemicals and a brief descriptions of it's properties.</p> <p>ii) <u>Hazard Statement</u> - The label should clearly indicate the hazards associated 10th the</p>	C.B.S.E study Material	4	61	2

	chemicals such as it's flammability, toxicity or rectify.				
Q.15.	<p>i) <u>Ensuring Product Qualities and Consistency</u> – GMP guidelines help pharmaceuticals companies maintain consistent quality standards, throughout the manufacturing process.</p> <p>ii) <u>Protecting public health</u> - By adhering to GMP guideline pharmaceuticals companies minimize the risk of producing substandard or contaminated medicines.</p>	C.B.S.E study Material	5	76	2
Q.16.	<p>i) <u>Research and Development</u> –</p> <p>a) It focuses on the intricacies of innovation (information gathering).</p> <p>b) Technology focused.</p> <p>ii) <u>Innovation</u> –</p> <p>a) It focuses on big pictures, encompassing all phases of innovation from idea generation.</p> <p>b) Solution focused.</p>	C.B.S.E study Material	6	86	2

Answer any 3 out of given 6 questions in 50 to 80 words each – (4X3=12)

Q.17.	<p><u>Primary Purpose of RCPA</u> –</p> <p>a) Identifying Prescribing Trends – To identify which medications are commonly prescribed in the territory to tailor sales pitches accordingly.</p> <p>b) <u>Spotting Potential Prescribers</u> – Identifying health care professionals who prescribed specific medications to forget them effectively.</p> <p>c) <u>Competitor Analysis</u> - Gathering information about competitor products and market share within the territory.</p>	C.B.S.E. Study Materials	Unit 1	PS no. 12	Marks 4
-------	--	-----------------------------	--------	-----------	---------

	BENEFITS - Benefits of RCPA include precision targeting data driven strategy development and improved product knowledge.				
Q.18	<p>The different component of SOP are as follows –</p> <p>i) Title ii) Objective/Purpose iii) Scope iv) Responsibilities v) Accountability vi) Definitions and Abbreviations vii) Procedure viii) Safety and Precautions ix) References.</p> <p>Two advantages of SOP –</p> <p>i) Consistency – SOPs provide or standardized set of procedures to follow ensuring everyone follows the same steps.</p> <p>ii) Efficiency – With standardized procedures in place, processes can be carried out more efficiently which saves time and reduce cost.</p>	C.B.S.E. Study Materials	Unit 2	PS no. 30	Marks 4
Q19.	<p>Importance of handling glassware's safety in laboratories</p> <p>- i) <u>Personal Safety</u> – Glassware is fragile and can easily break bading to potential cuts, injuries and infection. By handling glassware safely, we can reduce the risk of personal injury and illness.</p> <p>ii) <u>Accuracy of results</u> - Glassware is often used to measure precise limounts of liquids and chemicals any error in measurement can affect the results of an experiment. By handling glassware safely, you reduce the risk of spillages or breakages.</p>	C.B.S.E. Study Materials	Unit 3	PS no. 45	Marks 4
Q20.	The storage conditions of chemicals in laboratory to prevent accidents and minimize the risk of				

	<p>exposure to hazardous substances are as follows –</p> <ul style="list-style-type: none"> • <u>Appropriate labeling</u> – All chemicals should be properly labeled with their name hazard warning and storage requirements. • <u>Segregation of chemicals</u> – Different chemicals should be segregated from each other to prevent accidental mixing and possible reactions. 	C.B.S.E. Study Materials	Unit 4	Pg no. 64	Marks 4
Q21.	<p>Basic principal of organic chemistry related to medicine manufacturing –</p> <p>i) <u>Carbon – based Molecules</u> – Organic chemistry deals with the carbon – based molecules, which are the building blocks of many substances found in living organisms.</p> <p>ii) <u>Functional Groups</u> – Functional groups are specific arrangements of atoms within organic molecules that determine their chemical properties. For example – “Think about different Flavors in Fruit”.</p> <p>iii) <u>Isomerism</u> – Isomerism is when molecules have the same chemical formula but different structures.</p>	C.B.S.E. Study Materials	Unit 5	Pg no. 73	Marks 4