ਸ਼ਹੀਦ ਭਗਤ ਸਿੰਘ
ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ
ਮੋਗਾ ਰੋਡ, ਫ਼ਿਰੋਜ਼ਪੁਰ - 152004 (ਪੰਜਾਬ) ਭਾਰਤ
(ਪੰਜਾਬ ਸਰਕਾਰ ਦੁਆਰਾ ਐਕਟ ਨੰ. 10/2021 ਅਧੀਨ ਸਥਾਪਤ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ)

Shaheed Bhagat Singh State University
Moga Road, Ferozepur - 152004 (Punjab) INDIA
(A State University Established by Govt. of Punjab Vide Act No. 10 of 2021)

Ref. No. ...SBS/FZR/CHEM/2802... Dated ...14/10/2025...

Minutes of Meeting

The 5th meeting of BOS (Chemical Engg. and Environment Sciences) was held in online mode on 14th Oct, 2025 (Tuesday) at 3:30 pm:

Following board members were present:

(1) Dr. Pankaj Kalra, Chairman, Dept. of Chemical Engg., SBSSU, Ferozepur
(2) Dr. Raj Kumar Gupta, Prof., Dept. of Chemical Engg., TIET, Patiala
(3) Dr. Sushil Kumar Kansal, Prof., Dept. of Chemical Engg., UICET, PU, Chandigarh
(4) Dr. Renuka Garg, Distinguished Alumni, Dept. of Chemical Engg., SBSSU, Ferozepur
(5) Dr. Rajeev Kumar Garg, Prof., Dept. of Chemical Engg., SBSSU, Ferozepur
(6) Dr. Rajiv Arora, Assoc. Prof., Dept. of Chemical Engg., SBSSU, Ferozepur
(7) Dr. Balpreet Kaur, Assoc. Prof., Dept. of Chemical Engg., SBSSU, Ferozepur
(8) Mr. Surinder Singh, Asstt. Prof., Dept. of Chemical Engg., SBSSU, Ferozepur

The board deliberated upon various issues and the following points were recommended:

Item No. 1. Proposal for minor amendments in scheme of B. Tech. Chemical Engg. 2022 Batch onwards

Decision: The revised study scheme of B.Tech. Chemical Engg. (2022 batch onwards) has been approved as proposed.

The modified study scheme for B.Tech. Chemical Engg. (2022 batch onwards) is being attached (Annexure-I).

Item No. 2. Rectifications of marks of internal and external assessments for Project (BTCH-705C)

Decision: Approved as proposed

HOD (Chemical Engg.) 14/10/25

1. 2.
3. 14/10/25 4. 14/10/25
5. Rajeev Kumar 14/10/25 6. Renuka
7. 14/10/25 8.

SBSSTC Ferozepur

Head CHE <hodche@sbsstc.ac.in>

Minutes of 5th BOS meeting held on 14th Oct., 2025

2 messages

Head CHE <hodche@sbsstc.ac.in> Thu, Oct 16, 2025 at 10:42 AM
To: sushilkk1@pu.ac.in

Respected. Sir,

Greetings !!!

Hope you are doing well.

I am attaching herewith the minutes of the 5th BOS meeting held on 14th Oct., 2025 in online mode along with the Annexures. The changes have been incorporated as per the recommendations of the board members.

The minutes have been signed by all the internal members and Prof. Dr. Raj Kumar Gupta, TIET Patiala.

You are requested to sign the minutes and send it by the return mail.

Thanks & Regards,

Dr. Pankaj Kalra
Assoc. Prof. & Head
Deptt. of Chemical Engg.
SBS State University, Ferozepur
Ph. No. 8054100770

Signed MOM 5th BOS CHE.pdf
705K

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sushilkk1 <sushilkk1@pu.ac.in> Thu, Oct 16, 2025 at 10:49 AM
To: Head CHE <hodche@sbsstc.ac.in>

Approved from my side.

Regards

Prof. Sushil K Kansal

Panjab University

Chandigarh

[Quoted text hidden]

Shaheed Bhagat Singh State University, Ferozepur Punjab
Department of Chemical Engineering
B.Tech. Chemical Engineering
Scheme of Syllabi (2022 Batch Onwards)
3rd Semester (Second Year) -Curriculum

Total Contact Hours= 25

Sr. No.	Course Code	Course Title	Hours per week			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
1.	BTCH-301C	Chemical Engineering Thermodynamics	3	1	0	40	60	100	4
2.	BTCH-302C	Fluid Mechanics	3	1	0	40	60	100	4
3.	BTCH-303C	Mechanical Operations	3	1	0	40	60	100	4
4.	BTCH-304C	Chemical Process Industries	3	0	0	40	60	100	3
5.	BTCH-305C	Engineering & Solid Mechanics	3	1	0	40	60	100	4
6.	BTCH-306C	Chemical Engineering Lab-I (FM & ESM lab)*	0	0	3	30	20	50	1.5
7.	BTCH-307C	Chemical Engineering Lab-II (Mechanical Operations lab)*	0	0	3	30	20	50	1.5
8	BTCH-308C	Training-I	-	-	-	60	40	100	2
Total			**15**	**4**	**6**	**320**	**380**	**700**	**24**

***Diploma course**

1 14/10/25
2 Rajeev Kumar 14/10/25
3 14/10/25
4 14/10/25
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For Batches 2022 & Onwards

Govt. of Punjab Act No. 10 of 2021 registered under UGC section u/s 2(f)

Shaheed Bhagat Singh State University, Ferozepur Punjab

Department of Chemical Engineering

B.Tech. Chemical Engineering

Scheme of Syllabi (2022 Batch Onwards)

4th Semester (Second Year) -Curriculum

Total Contact Hours= 27

Sr. No.	Course Code	Course Title	Hours per week			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
1.	BTCH-401C	Chemical Reaction Engineering-I	3	1	0	40	60	100	4
2.	BTCH-402C	Mass Transfer-I	3	1	0	40	60	100	4
3.	BTCH-403C	Heat Transfer	3	1	0	40	60	100	4
4.	BTCH-404C	Materials Science*	3	0	0	40	60	100	3
5.	BTCH-407C	Plant Utilities	3	0	0	40	60	100	3
6.	BT-	Open Elective-I	3	0	0	40	60	100	3
7.	BTCH-405C	Chemical Engineering Lab-III (Heat & Mass Transfer lab)	0	0	3	30	20	50	1.5
8.	BTCH-406C	Chemical Engineering Lab-IV (CRE lab)	0	0	3	30	20	50	1.5
Total			**18**	**3**	**6**	**300**	**400**	**700**	**24**

***Diploma course**

1 14/10/20

2 Rajeev Kumar 14/10/25

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4 14/10/25

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Shaheed Bhagat Singh State University, Ferozepur Punjab
Department of Chemical Engineering
B.Tech. Chemical Engineering
Scheme of Syllabi (2022 Batch Onwards)
5th Semester (Third Year) -Curriculum

Total Contact Hours= 22

Sr. No.	Course Code	Course Title	Hours per week			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
1.	BTCH-501C	Chemical Reaction Engineering-II	3	1	0	40	60	100	4
2.	BTCH-502C	Mass Transfer-II	3	1	0	40	60	100	4
3.	BTCH-503C	Industrial Pollution Control**	3	0	0	40	60	100	3
4.	Core Elective-I		3	0	0	40	60	100	3
	BTCH-511C	Mathematical Methods in Chemical Engg.							
	BTCH-512C	Corrosion Engg.							
5.	BT-	Open Elective-II	3	0	0	40	60	100	3
6.	BTCH-505C	Process Engineering & Economics	3	0	0	40	60	100	3
7.	BTCH-504C	Chemical Engineering Lab-V (C.T. & Environmental Engg. lab)	0	0	2	30	20	50	1
Total			**18**	**2**	**2**	**270**	**380**	**650**	**21**

****Advance Diploma**

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2 Rajeev Kumar 14/10/21
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For Batches 2022 & Onwards
Govt. of Punjab Act No. 10 of 2021 registered under UGC section u/s 2(f)

Shaheed Bhagat Singh State University, Ferozepur Punjab
Department of Chemical Engineering
B.Tech. Chemical Engineering
Scheme of Syllabi (2022 Batch Onwards)
6th Semester (Third Year) -Curriculum

Total Contact Hours= 26

Sr. No.	Course Code	Course Title	Hours per week			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
1.	BTCH-601C	Process Instrumentation, Dynamics & Control	3	1	0	40	60	100	4
2	BTCH-602C	Energy Technology	3	0	0	40	60	100	3
3.	BTCH-603C	Chemical Process Safety**	3	0	0	40	60	100	3
4.	Core Elective-II		3	0	0	40	60	100	3
	BTCH-611C	Polymer Science & Reactor Design							
	BTCH-612C	Optimization Techniques							
5.	BT-	Open Elective-III	3	0	0	40	60	100	3
6.	BTHU-	HASS-I***	3	0	0	40	60	100	3
7.	BTCH-604C	Chemical Equipment Design	1	0	3	30	20	50	2
8.	BTCH-605C#	Chemical Engg. & Polymer Processing lab (Mandatory Non-Credit Course)	0	0	3	50#	-	50	0 (#Sat/ Unsat)
Total			**19**	**1**	**6**	**320**	**380**	**700**	**21**

****Advance Diploma**

 # Mandatory Non-Credit lab (Satisfactory/ Unsatisfactory grade will be awarded based on securing 35% marks in internal exam)

1 — 14/10/25

2 Rajeev Kumar 14/10/25

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Shaheed Bhagat Singh State University, Ferozepur Punjab
Department of Chemical Engineering
B.Tech. Chemical Engineering
Scheme of Syllabi (2022 Batch Onwards)
7th Semester (Fourth Year) -Curriculum

Total Contact Hours= 31

Sr. No.	Course Code	Course Title	Hours per week			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
1.	BTCH-701C	Transport Phenomena	3	1	0	40	60	100	4
2.	Core Elective-III		3	0	0	40	60	100	3
	BTCH-711C	Petroleum Engineering & Technology							
	BTCH-712C	Fuel Cell Technology							
3	BT-	Open Elective-IV	3	0	0	40	60	100	3
4.	BTHU-	HASS-II***	3	0	0	40	60	100	3
5.	BTCH-702C	Chemical Engineering Lab –VI (Process Modeling & Simulation Lab)	0	0	3	30	20	50	1
6.	BTCH-703C	Chemical Engineering Lab –VII (Process Instrumentation, Dynamics & Control Lab)	0	0	3	30	20	50	1
7.	BTCH-704C	Chemical Process Plant Design	1	0	3	30	20	50	2
8.	BTCH-705C	Project	-	-	8	60	40	100	4
Total			**13**	**1**	**17**	**310**	**340**	**650**	**21**

1 14/10/25
2 Rajeev Kumar 14/10/25
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Shaheed Bhagat Singh State University, Ferozepur Punjab
Department of Chemical Engineering
B.Tech. Chemical Engineering
Scheme of Syllabi (2022 Batch Onwards)
8th Semester (b) (Fourth Year) -Curriculum

Total Contact Hours = 00

Sr. No.	Course Code	Course Title	Hours per week			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
1.	BTCH-801C	Industry/ Institutional Internship Training	-	-	-	300	200	500	14
Total			**0**	**0**	**0**	**300**	**200**	**500**	**14**

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For Batches 2022 & Onwards
Govt. of Punjab Act No. 10 of 2021 registered under UGC section u/s 2(f)

Shaheed Bhagat Singh State University, Ferozepur Punjab

Department of Chemical Engineering
B.Tech. Chemical Engineering
Scheme of Syllabi (2022 Batch Onwards)
8th Semester (a) (Fourth Year) –Curriculum

Total Contact Hours= 14

Sr. No.	Course Code	Course Title	Hours per week			Marks Distribution		Total Marks	Credits
			L	T	P	Internal	External		
1.	BTCH-802C	Heat Exchanger Networks	2	0	0	40	60	100	2
2.	Core Elective-IV		3	0	0	40	60	100	3
	BTCH-811C	Nano-Technology							
	BTCH-812C	Fluidization Engg.							
3	Core Elective-V		3	0	0	40	60	100	3
	BTCH-813C	Advanced Separation Processes							
	BTCH-814C	Bio-Chemical Engg.							
4.	Core Elective-VI		3	0	0	40	60	100	3
	BTCH-815C	Green Energy & Technologies							
	BTCH-816C	Bioenergy Engineering							
5.	BT-	Open Elective-V	3	0	0	40	60	100	3
Total			**14**	**0**	**0**	**200**	**300**	**500**	**14**

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2 Rajeev Kumar 14/10/24
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BTCH-405C Plant Utilities

External Marks: 60
Internal Marks: 40
Total Marks: 100

L	T	P
3	0	0

Objective: The aim of this course is to familiarize the students with utility services required in chemical process industries, their importance and fundamental principles. Importance of Process utilities in Chemical Plant.

Steam: **(6 hrs)**
Boilers- classification, various types, construction, boiler mountings & accessories, properties of steam-tables, Mollier Diagram.

Power Generation: **(6 hrs)**
Internal Combustion Engines- classification, two- stroke, four stroke petrol & diesel engine, valve timing diagram, carburetor, Combustion Phenomena.

Refrigeration: **(6 hrs)**
Air refrigeration cycles, vapour compression cycle, P-H diagram, liquefactions processes.

Compressed Air and Vacuum: **(12 hrs)**
Use of compressed air. Classification of compressors, Reciprocating compressors- mechanical details, single stage and two stage reciprocating compressor, inter cooler, minimum work input in multistage.
Centrifugal compressor- velocity diagram for centrifugal compressors, dimensional parameters, slip factor, impeller blade shapes, losses in axial flow compressors.

Water: **(3 hrs)**
Cooling water, cooling towers, raw water, DM water, soft water.

Waste Disposal: **(3 hrs)**
Plant sewer system and waste disposal.

BOOKS RECOMMENDED:

1. Yadav B, Thermodynamics & Heat Engines, Central Publishing House, Allahabad, 2000.
2. Vasandani, Treatise on Heat Engines, 4th edition, Metropolitan Book Co. Pvt Ltd, New Delhi, 2008
3. Lyle O, The efficient Use of Steam, Her Majesty's Stationary Office, London, 1974.
4. Baasal W D, Preliminary Chemical Engineering Plant Design, 2nd edition, New York, 1989.
5. Dodge B F, Chemical Engineering Thermodynamics, 2nd edition, McGraw Hill, 1967

COURSE OUTCOMES

The students will be able to:

1. Classify and explain types of boilers, their components, and steam properties using steam tables and Mollier diagrams.
2. Compare two-stroke and four-stroke engines and interpret valve timing and combustion phenomena.
3. Illustrate refrigeration cycles and explain P-H diagrams and liquefaction processes.
4. Explain the working and performance of reciprocating and centrifugal compressors.
5. Describe types of industrial water and waste disposal systems.