



SS INSTITUTE OF PHARMACY

(A unit of VS Educational & Charitable Trust)

Approved by Tamilnadu Government & Pharmacy Council of India, New Delhi.

Affiliated to the Tamilnadu Dr. M.G.R. Medical University,
and The Directorate of Medical Education, Chennai.

REF.NO:SSIP/ REQ/2023/004

Date: 03/07/2023

From

Department of Pharmaceutical Biotechnology,

SS institute of pharmacy,

Sankari, Salem (DIST) - 637301.

To

The principal,

SS institute of pharmacy,

Sankari, Salem (DIST) – 637301.

Subject: Letter for requesting permission to conduct **ADD ON COURSE** -Reg.

Respected sir,

We are requesting you to grant permission to conduct add-on course in the seminar hall on 12/07/2023 to 25/07/2023. We wish to conduct add on course on the title “**Biomechanics And Orthopaedic Implants**”. This add-on course program would be a great opportunity for students to learn and that would help to shape the students.

Thanking you,

Yours truly,


PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301




PRINCIPAL,
SS INSTITUTE OF PHARMACY,
KUPPANUR (PO), SANKARI (TK),
SALEM - 637301



NH-544, Kuppanur (Po), Sankari (Tk), Salem(Dt) – 637301, Tamilnadu, India

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23

DATE: 03/07/2023

CIRCULAR

This is to inform that will B.PHARM students have the schedule of following value - added course to be conducted by our SS Institute of Pharmacy and it as mentioned below.

COURSE NAME	SCHEDULE	DURATION	VENUE	RESOURCE PERSON
BIOMECHANICS AND ORTHOPAEDIC IMPLANTS	12/07/2023 to 25/07/2023	36 HOURS	SEMINAR HALL	S.PRAVIN KUMAR

All the above-mentioned students must enroll and actively participate in the course without fail.

Note: Certificates will be issued for the eligible students after completion of the course and examination.



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SS INSTITUTE OF PHARMACY
SANKARI-637301



**SS INSTITUTE
OF PHARMACY,
SANKARI**

**DEPARTMENT OF
BIOTECHNOLOGY**

COURSE TITLE
**BIOMECHANICS AND
ORTHOPAEDIC
IMPLANTS**

RESOURCE PERSON;

**S.PRAVIN KUMAR M.PHARM
ASST. PROFESSOR**

TOPICS:

- Biomechanics of Bone and Joints
- Materials Used in Orthopaedic Implants
- Design and Function of Orthopaedic Implants
- Clinical Applications and Biocompatibility

PHONE:9443026656

EMAIL:SSIP1718@GMAIL.COM

WEBSITE:WWW.SSIP.EDU.IN

VENUE SSIP SEMINAR HALL

DATE :12/07/2023-25/07/2023

TIME :10:00AM-01:00PM



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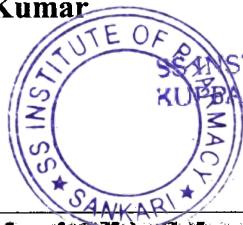
SYLLABUS

BIOMECHANICS AND ORTHOPEDIC IMPLANTS

Sl. No.	Topic	Date
1	Fundamentals of Biomechanics and Orthopedic Implants - Principles of Mechanics in Biological Systems - Tissue Biomechanics: Bone, Cartilage, Tendon, and Ligament - Biomechanical Properties of Musculoskeletal Tissues	12/7/2023- 13/7/2023
2	Design, Materials, and Manufacturing of Orthopedic Implants - Biocompatible Materials: Metal Alloys, Polymers, and Ceramics - Surface Engineering and Coatings - Finite Element Analysis (FEA) and Additive Manufacturing (3D Printing) - Customization and Personalization	14/7/2023- 17/7/2023
3	Joint Mechanics and Load Analysis - Mechanics of Hip, Knee, Spine, Shoulder, and Elbow Joints - Stress-Strain Relationships and Load Transfer - Fatigue and Fracture Mechanics of Implants	18/7/2023- 20/7/2023
4	Implant-Body Interaction and Wear - Osseointegration and Bone-Implant Interface - Biological Responses: Inflammation, Infection, and Remodeling - Wear Mechanisms, Tribology, and Factors Affecting Implant Longevity	21/7/2023- 22/7/2023
5	Clinical Outcomes, Innovations, and Future Directions - Clinical Evaluation, Complications, and Revision Surgery - Bioactive and Smart Implants, Regenerative Medicine, and Robotics - Regulatory and Ethical Considerations - Post-Surgical Rehabilitation and Long-Term Monitoring	24/7/2023- 25/7/2023

RESOURCE PERSON: S.PravinKumar

TOTAL HOURS:36Hrs



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ADD ON / CERTIFICATE VALUE ADDED COURSES ACADEMIC YEAR 2023-2024



SS INSTITUTE OF PHARMACY

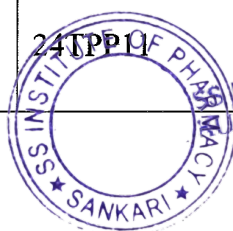
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ACADAMIC YEAR 2023-2024

S.NO	NAME OF ADD ON CERTIFICATES PROGRAMS	COURSE CODE	NO OF STUDENTS ENROLLED	TYPE OF ADD ON CERTIFICATE PROGRAMS
1.	Advanced therapy topics in immunotherapy	23ATTI01	55	Self-framed course
2.	Green cell factories	23GCF02	58	Self-framed course
3.	Advanced techniques in enzymology .	23ATE03	70	Self-framed course
4.	Biomechanics and orthopaedic implants	23BOI04	58	Self-framed course
5.	Blockchain technology in pharmaceuticals	23BTP05	30	Self-framed course
6.	Cell designer modeling tool for gene-regulatory & biomedical networks	23CDMTGRBN06	27	Self-framed course
7.	Computational protein modeling and analytics	23CPMA07	59	Self-framed course
8.	Scientific writing in health research	24SWHR08	54	Self-framed course
9.	Systematic reviews for pharmacy health professionals	24SRPHP09	57	Self-framed course
10.	Advanced bioinformatics: Tools & applications	24ABTA10	111	Self-framed course
11.	Telemedicine: Principles & practices	24TPP11	58	Self-framed course



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ADD ON COURSE – ENROLLMENT LIST

NAME OF ADD ON COURSE : BIOMECHANICS AND ORTHOPAEDIC IMPLANTS

COURSE INSTRUCTORS : PRAVINKUMAR.S

YEAR OFFERED : 4th SEM B.PHARM

COURSE DURATION : 36 hrs

S.NO	NAME OF THE STUDENT	REGISTER NO	COURSE
1.	ABINAYA.M	560020523501	2 nd B.Pharm
2.	ABISHEK.J	560020523502	2 nd B.Pharm
3.	AMOKA.V	560020523503	2 nd B.Pharm
4.	ANBUSELVAN.V	560020523504	2 nd B.Pharm
5.	ANBUSELVI.S	560020523505	2 nd B.Pharm
6.	ANITHA.L	560020523506	2 nd B.Pharm
7.	ARAVIND.R	560020523507	2 nd B.Pharm
8.	ARCHANA.M	560020523508	2 nd B.Pharm
9.	ARUN VENKATESHWARAN.S	560020523509	2 nd B.Pharm
10.	ARUN.A	560020523510	2 nd B.Pharm
11.	ASWIN.M	560020523511	2 nd B.Pharm
12.	ATCHAYA.K	560020523512	2 nd B.Pharm
13.	BANU.S	560020523513	2 nd B.Pharm
14.	BAVITHRA.B	560020523514	2 nd B.Pharm
15.	BHARATHI RAJA.S	560020523515	2 nd B.Pharm
16.	BHARATH KUMAR.R	560020523516	2 nd B.Pharm
17.	DEEPASRI.P	560020523517	2 nd B.Pharm
18.	DINESH.S	560020523518	2 nd B.Pharm
19.	GOPIKRISHNAN.V	560020523519	2 nd B.Pharm
20.	GOWSALYA.V	560020523520	2 nd B.Pharm
21.	GULBAHAR.G	560020523521	2 nd B.Pharm
22.	HEMADHARAN.V	560020523522	2 nd B.Pharm
23.	ISHWARYA.S	560020523523	2 nd B.Pharm
24.	JEYASURYA.V	560020523524	2 nd B.Pharm
25.	KESAVAMUGILESH.M	560020523525	2 nd B.Pharm

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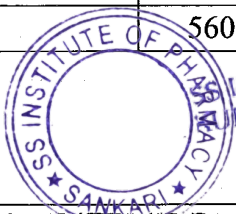
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26.	MUTHU.J	560020523526	2 nd B.Pharm
27.	NAGAMUGILAN.P	560020523527	2 nd B.Pharm
28.	NAGESHWARI.K	560020523528	2 nd B.Pharm
29.	NARESH KUMAR.M	560020523529	2 nd B.Pharm
30.	NARMATHA.M	560020523530	2 nd B.Pharm
31.	PAPITHA .V	560020523531	2 nd B.Pharm
32.	PRAGATHI .P	560020523532	2 nd B.Pharm
33.	PRASANTH .M	560020523533	2 nd B.Pharm
34.	PRIYADARSHINI .V	560020523534	2 nd B.Pharm
35.	RAJALAKSHMI .N	560020523535	2 nd B.Pharm
36.	RAJARAJAN .M	560020523536	2 nd B.Pharm
37.	SATHISHKUMAR .J	560020523537	2 nd B.Pharm
38.	SHIRLEY ELIZABETH.I	560020523538	2 nd B.Pharm
39.	SIVA S.V	560020523539	2 nd B.Pharm
40.	SIVAPRAKASH .V	560020523540	2 nd B.Pharm
41.	SUDHA D.G	560020523541	2 nd B.Pharm
42.	SUNDARAKANNAN .D	560020523542	2 nd B.Pharm
43.	SURIYA .G	560020523543	2 nd B.Pharm
44.	SWATHY .M	560020523544	2 nd B.Pharm
45.	SYED YASIN S.M	560020523545	2 nd B.Pharm
46.	TAMILARASAN .A	560020523546	2 nd B.Pharm
47.	THAMIZHARASAN .N	560020523547	2 nd B.Pharm
48.	THILAGAVATHI .M	560020523548	2 nd B.Pharm
49.	THIRUMURUGAN .R	560020523549	2 nd B.Pharm
50.	UMAVATHI .P	560020523550	2 nd B.Pharm
51.	VALLARASU.D	560020523551	2 nd B.Pharm
52.	VASANTHRAJ .S	560020523552	2 nd B.Pharm
53.	VINOTH SANJAY.T	560020523553	2 nd B.Pharm
54.	VINOTH .S	560020523554	2 nd B.Pharm
55.	VISHWA .M	560020523555	2 nd B.Pharm
56.	VISHWANATHAN .V	560020523556	2 nd B.Pharm
57.	CHANDURU .R	560021523561	2 nd B.Pharm
58.	NISHA .P	560021523562	2 nd B.Pharm



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35

ADD ON COURSE – ENROLLMENT LIST

NAME OF ADD ON COURSE : BIOMECHANICS AND ORTHOPAEDIC IMPLANTS

COURSE INSTRUCTORS : PRAVINKUMAR.S

YEAR OFFERED : 4th SEM B.PHARM

COURSE DURATION : 36 hrs

S.NO	NAME OF THE STUDENT	REGISTER NO	ATTENDANCE					
			12/7/23	13/7/23	14/7/23	15/7/23	17/7/23	18/7/23
1.	ABINAYA.M	560020523501	At	At	At	At	At	At
2.	ABISHEK.J	560020523502	At	At	At	At	At	At
3.	AMOKA.V	560020523503	At	At	At	At	At	At
4.	ANBUSELVAN.V	560020523504	At	At	At	At	At	At
5.	ANBUSELVI.S	560020523505	At	At	At	At	At	At
6.	ANITHA.L	560020523506	At	At	At	At	At	At
7.	ARAVIND.R	560020523507	At	At	At	At	At	At
8.	ARCHANA.M	560020523508	At	At	At	At	At	At
9.	ARUN VENKATESHWARAN.S	560020523509	At	At	At	At	At	At
10.	ARUN.A	560020523510	At	At	At	At	At	At
11.	ASWIN.M	560020523511	At	At	At	At	At	At
12.	ATCHAYA.K	560020523512	At	At	At	At	At	At
13.	BANU.S	560020523513	At	At	At	At	At	At
14.	BAVITHRA.B	560020523514	At	At	At	At	At	At
15.	BHARATHI RAJA.S	560020523515	At	At	At	At	At	At
16.	BHARATH KUMAR.R	560020523516	At	At	At	At	At	At
17.	DEEPASRI.P	560020523517	At	At	At	At	At	At
18.	DINESH.S	560020523518	At	At	At	At	At	At
19.	GOPIKRISHNAN.V	560020523519	At	At	At	At	At	At
20.	GOWSALYA.V	560020523520	At	At	At	At	At	At
21.	GULBAHAR.G	560020523521	At	At	At	At	At	At
22.	HEMADHARAN.V	560020523522	At	At	At	At	At	At
23.	ISHWARYA.S	560020523523	At	At	At	At	At	At
24.	JEYASURYA.V	560020523524	At	At	At	At	At	At
25.	KESAVAMUGILESH.M	560020523525	At	At	At	At	At	At

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26.	MUTHU.J	560020523526	Jun	Jun	Jun	Jun	Jun	Jun
27.	NAGAMUGILAN.P	560020523527	Nay	Nay	Nay	Nay	Nay	Nay
28.	NAGESHWARI.K	560020523528	Nay	Nay	Nay	Nay	Nay	Nay
29.	NARESH KUMAR.M	560020523529	Dec	Dec	Dec	Dec	Dec	Dec
30.	NARMATHA.M	560020523530	Nay	Nay	Nay	Nay	Nay	Nay
31.	PAPITHA .V	560020523531	Pat	Pat	Pat	Pat	Pat	Pat
32.	PRAGATHI .P	560020523532	Pat	Pat	Pat	Pat	Pat	Pat
33.	PRASANTH .M	560020523533	Pat	Pat	Pat	Pat	Pat	Pat
34.	PRIYADARSHINI .V	560020523534	V.Pat	V.Pat	V.Pat	V.Pat	V.Pat	V.Pat
35.	RAJALAKSHMI .N	560020523535	Pat	Pat	Pat	Pat	Pat	Pat
36.	RAJARAJAN .M	560020523536	Raj	Raj	Raj	Raj	Raj	Raj
37.	SATHISHKUMAR .J	560020523537	Sat	Sat	Sat	Sat	Sat	Sat
38.	SHIRLEY ELIZABETH.I	560020523538	Shi	Shi	Shi	Shi	Shi	Shi
39.	SIVA S.V	560020523539	Siv	Siv	Siv	Siv	Siv	Siv
40.	SIVAPRAKASH .V	560020523540	Siv	Siv	Siv	Siv	Siv	Siv
41.	SUDHA D.G	560020523541	Sud	Sud	Sud	Sud	Sud	Sud
42.	SUNDARAKANNAN .D	560020523542	Sud	Sud	Sud	Sud	Sud	Sud
43.	SURIYA .G	560020523543	Sur	Sur	Sur	Sur	Sur	Sur
44.	SWATHY .M	560020523544	Swa	Swa	Swa	Swa	Swa	Swa
45.	SYED YASIN S.M	560020523545	Syd	Syd	Syd	Syd	Syd	Syd
46.	TAMILARASAN .A	560020523546	Tam	Tam	Tam	Tam	Tam	Tam
47.	THAMIZHARASAN .N	560020523547	N.T	N.T	N.T	N.T	N.T	N.T
48.	THILAGAVATHI .M	560020523548	Thi	Thi	Thi	Thi	Thi	Thi
49.	THIRUMURUGAN .R	560020523549	Thi	Thi	Thi	Thi	Thi	Thi
50.	UMAVATHI .P	560020523550	P.Uma	P.Uma	P.Uma	P.Uma	P.Uma	P.Uma
51.	VALLARASU.D	560020523551	Valla	Valla	Valla	Valla	Valla	Valla
52.	VASANTHRAJ .S	560020523552	S.Vas	S.Vas	S.Vas	S.Vas	S.Vas	S.Vas
53.	VINOTH SANJAY.T	560020523553	Vin	Vin	Vin	Vin	Vin	Vin
54.	VINOTH .S	560020523554	S.Vin	S.Vin	S.Vin	S.Vin	S.Vin	S.Vin
55.	VISHWA .M	560020523555	Vis	Vis	Vis	Vis	Vis	Vis
56.	VISHWANATHAN .V	560020523556	Vin	Vin	Vin	Vin	Vin	Vin
57.	CHANDURU .R	560021523561	Chu	Chu	Chu	Chu	Chu	Chu
58.	NISHA .P	560021523562	Nay	Nay	Nay	Nay	Nay	Nay



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S.NO	NAME OF THE STUDENT	REGISTER NO	ATTENDANCE					
			19/7/23	20/7/23	21/7/23	22/7/23	24/7/23	25/7/23
1.	ABINAYA.M	560020523501	Madhif	Madhif	Madhif	Madhif	A	Madhif
2.	ABISHEK.J	560020523502	J.B	J.B	J.B	J.B	J.B	J.B
3.	AMOKA.V	560020523503	V. Am	V. Am	V. Am	V. Am	V. Am	V. Am
4.	ANBUSELVAN.V	560020523504	V. Am	V. Am	V. Am	V. Am	V. Am	V. Am
5.	ANBUSELVIS	560020523505	Amu	Amu	Amu	Amu	Amu	Amu
6.	ANITHA.L	560020523506	Anitha	Anitha	Anitha	Anitha	Anitha	Anitha
7.	ARAVIND.R	560020523507	R. Ar	R. Ar	R. Ar	R. Ar	R. Ar	R. Ar
8.	ARCHANA.M	560020523508	Archa	Archa	Archa	Archa	Archa	Archa
9.	ARUN VENKATESHWARAN.S	560020523509	S. Ar	S. Ar	S. Ar	S. Ar	S. Ar	S. Ar
10.	ARUN.A	560020523510	A. Ar	A. Ar	A. Ar	A. Ar	A. Ar	A. Ar
11.	ASWIN.M	560020523511	Aswin	Aswin	Aswin	Aswin	Aswin	Aswin
12.	ATCHAYA.K	560020523512	K. At	K. At	K. At	K. At	K. At	K. At
13.	BANU.S	560020523513	S. Banu	S. Banu	S. Banu	S. Banu	S. Banu	S. Banu
14.	BAVITHRA.B	560020523514	B. B	B. B	B. B	B. B	B. B	B. B
15.	BHARATHI RAJA.S	560020523515	S. B	S. B	S. B	S. B	S. B	S. B
16.	BHARATH KUMAR.R	560020523516	R. B	R. B	R. B	R. B	R. B	R. B
17.	DEEPASRI.P	560020523517	P. D	P. D	P. D	P. D	P. D	P. D
18.	DINESH.S	560020523518	S. D	S. D	S. D	S. D	S. D	S. D
19.	GOPIKRISHNAN.V	560020523519	V. G	V. G	V. G	V. G	V. G	V. G
20.	GOWSALYA.V	560020523520	V. G	V. G	V. G	V. G	V. G	V. G
21.	GULBAHAR.G	560020523521	G. G	G. G	G. G	G. G	G. G	G. G
22.	HEMADHARAN.V	560020523522	V. H	V. H	V. H	V. H	V. H	V. H
23.	ISHWARYA.S	560020523523	S. I	S. I	S. I	S. I	S. I	S. I
24.	JEYASURYA.V	560020523524	V. J	V. J	V. J	V. J	V. J	V. J
25.	KESAVAMUGILESH.M	560020523525	M. K	M. K	M. K	M. K	M. K	M. K
26.	MUTHU.J	560020523526	J. M	J. M	J. M	J. M	J. M	J. M
27.	NAGAMUGILAN.P	560020523527	P. N	P. N	P. N	P. N	P. N	P. N
28.	NAGESHWARI.K	560020523528	K. N	K. N	K. N	K. N	K. N	K. N
29.	NARESH KUMAR.M	560020523529	M. N	M. N	M. N	M. N	M. N	M. N

NH-544, Kuppanur (Po), Sankari (Tk), Salem (Dt) - 637301, Tamilnadu, India

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30.	NARMATHA.M	560020523530	M.N.P	M.N.P	M.N.P	M.N.P	M.N.P	M.N.P
31.	PAPITHA .V	560020523531	V.P.R	V.P.R	V.P.R	V.P.R	V.P.R	V.P.R
32.	PRAGATHI .P	560020523532	P.P.R	P.P.R	P.P.R	P.P.R	P.P.R	P.P.R
33.	PRASANTH .M	560020523533	M.P.R	M.P.R	M.P.R	M.P.R	M.P.R	M.P.R
34.	PRIYADARSHINI .V	560020523534	P.R.V	P.R.V	P.R.V	P.R.V	P.R.V	P.R.V
35.	RAJALAKSHMI .N	560020523535	R.N.P	R.N.P	R.N.P	R.N.P	R.N.P	R.N.P
36.	RAJARAJAN .M	560020523536	M.R.A	M.R.A	M.R.A	M.R.A	M.R.A	M.R.A
37.	SATHISHKUMAR .J	560020523537	S.J.P	S.J.P	S.J.P	S.J.P	S.J.P	S.J.P
38.	SHIRLEY ELIZABETH.I	560020523538	S.I.P	S.I.P	S.I.P	S.I.P	S.I.P	S.I.P
39.	SIVA S.V	560020523539	S.V.P	S.V.P	S.V.P	S.V.P	S.V.P	S.V.P
40.	SIVAPRAKASH .V	560020523540	S.V.P	S.V.P	S.V.P	S.V.P	S.V.P	S.V.P
41.	SUDHA D.G	560020523541	D.G.P	D.G.P	D.G.P	D.G.P	D.G.P	D.G.P
42.	SUNDARAKANNAN .D	560020523542	D.K.P	D.K.P	D.K.P	D.K.P	D.K.P	D.K.P
43.	SURIYA .G	560020523543	G.S.P	G.S.P	G.S.P	G.S.P	G.S.P	G.S.P
44.	SWATHY .M	560020523544	M.S.P	M.S.P	M.S.P	M.S.P	M.S.P	M.S.P
45.	SYED YASIN S.M	560020523545	S.M.P	S.M.P	S.M.P	S.M.P	S.M.P	S.M.P
46.	TAMILARASAN .A	560020523546	A.T.P	A.T.P	A.T.P	A.T.P	A.T.P	A.T.P
47.	THAMIZHARASAN .N	560020523547	N.T.P	N.T.P	N.T.P	N.T.P	N.T.P	N.T.P
48.	THILAGAVATHI .M	560020523548	M.T.P	M.T.P	M.T.P	M.T.P	M.T.P	M.T.P
49.	THIRUMURUGAN .R	560020523549	R.T.P	R.T.P	R.T.P	R.T.P	R.T.P	R.T.P
50.	UMAVATHI .P	560020523550	P.U.P	P.U.P	P.U.P	P.U.P	P.U.P	P.U.P
51.	VALLARASU.D	560020523551	D.V.P	D.V.P	D.V.P	D.V.P	D.V.P	D.V.P
52.	VASANTHRAJ .S	560020523552	S.V.P	S.V.P	S.V.P	S.V.P	S.V.P	S.V.P
53.	VINOTH SANJAY.T	560020523553	T.V.P	T.V.P	T.V.P	T.V.P	T.V.P	T.V.P
54.	VINOTH .S	560020523554	S.V.P	S.V.P	S.V.P	S.V.P	S.V.P	S.V.P
55.	VISHWA .M	560020523555	M.V.P	M.V.P	M.V.P	M.V.P	M.V.P	M.V.P
56.	VISHWANATHAN .V	560020523556	V.V.P	V.V.P	V.V.P	V.V.P	V.V.P	V.V.P
57.	CHANDURU .R	560021523561	R.C.P	R.C.P	R.C.P	R.C.P	R.C.P	R.C.P
58.	NISHA .P	560021523562	P.N.P	P.N.P	P.N.P	P.N.P	P.N.P	P.N.P



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ADD ON COURSE	BIOMECHANICS AND ORTHOPAEDIC IMPLANTS
DEPARTMENT	PHARMACEUTICAL BIOTECHNOLOGY
ACADEMIC YEAR	2023-2024
DATE	12/07/2023 to 25/07/2023
VENUE	SEMINAR HALL
NAME: PRIYA DHARSHINI	COURSE: 4 - SEM

ANSWER ALL THE QUESTIONS:

DATE: 25/07/2023

MULTIPLE CHOICE QUESTIONS

MARKS: 15

13

- What is the primary goal of biomechanics in the context of orthopedic implants?
 - To design implants that fit aesthetic preferences
 - ☒ To understand and improve the mechanical performance and durability of implants
 - To replace traditional surgical methods
 - To minimize the cost of implants
- Which of the following factors is most critical in determining the success of an orthopedic implant?
 - Implant color
 - ☒ Biocompatibility and mechanical properties
 - Cost of the implant
 - Manufacturing location
- What does the term "stress shielding" refer to in orthopedic implants?
 - ☒ The reduction of stress in the bone surrounding the implant due to the implant's stiffness
 - The protection of the implant from environmental factors
 - The use of stress-relieving materials in implant design
 - The prevention of stress fractures in the implant itself
- Which material is commonly used for the manufacture of load-bearing orthopedic implants due to its strength and biocompatibility?
 - Polyethylene
 - Stainless steel
 - ☒ Titanium
 - Silicone



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5. What is the purpose of finite element analysis (FEA) in the design of orthopedic implants?
- a) To visualize the implant in 3D
 - ☒ b) To simulate and analyze the mechanical behavior of the implant under various conditions
 - c) To assess the biocompatibility of materials
 - d) To measure the implant's chemical stability
6. In orthopedic biomechanics, what does the term "fixation" refer to?
- ☒ a) The process of securing an implant to the bone
 - b) The method of sterilizing an implant
 - c) The alignment of bones before surgery
 - d) The procedure of removing an implant
7. Which biomechanical property is crucial for the design of implants that support bone growth and integration?
- a) Corrosion resistance
 - ☒ b) Porosity
 - c) Surface roughness
 - d) Thermal conductivity
8. What type of implant is typically used to stabilize fractured bones and allow for proper healing?
- a) Joint replacement
 - ☒ b) Plate and screws
 - c) Artificial discs
 - d) Intramedullary nails
9. Which technique is used to assess the long-term performance and wear of orthopedic implants?
- ☒ a) In vivo studies
 - b) In vitro wear testing
 - c) Finite element modeling
 - d) Chemical analysis
10. What is the primary benefit of using biodegradable orthopedic implants?
- ☒ a) They do not require surgical removal after healing
 - b) They are less expensive than traditional implants
 - c) They have superior mechanical strength
 - d) They are more aesthetically pleasing



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11. Which parameter is most important for ensuring the mechanical stability of an orthopedic implant in load-bearing applications?

- a) Implant color
- ☒ b) Surface texture
- c) Material strength and design
- d) Implant weight

12. What role does surface coating play in orthopedic implants?

- ☒ a) It enhances the aesthetic appeal of the implant
- b) It improves the implant's resistance to biological corrosion and promotes bone integration
- c) It increases the implant's weight
- d) It reduces the cost of the implant

13. In biomechanics, what does "mechanical fatigue" of an implant refer to?

- ☒ a) The loss of mechanical properties over time due to repeated loading cycles
- b) The initial failure of the implant
- c) The increase in implant stiffness over time
- d) The inability of the implant to integrate with bone

14. Which imaging technique is commonly used to evaluate the position and alignment of orthopedic implants post-surgery?

- a) Magnetic resonance imaging (MRI)
- b) Computed tomography (CT)
- c) Ultrasound
- ☒ d) X-ray

15. What is the purpose of using biomechanical testing methods, such as stress-strain tests, in implant development?

- a) To determine the aesthetic quality of the implant
- ☒ b) To evaluate the mechanical properties and durability of the implant under simulated physiological conditions
- c) To assess the chemical composition of the implant
- d) To measure the cost-effectiveness of the implant



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ADD ON COURSE	BIOMECHANICS AND ORTHOPAEDIC IMPLANTS
DEPARTMENT	PHARMACEUTICAL BIOTECHNOLOGY
ACADEMIC YEAR	2023-2024
DATE	12/07/2023 to 25/07/2023

ANSWER KEY:

DATE: 25/07/2023

MULTIPLE CHOICE QUESTIONS

MARKS: 15

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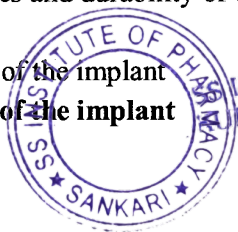
- a) **The loss of mechanical properties over time due to repeated loading cycles**
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ADD ON COURSE – MARK LIST

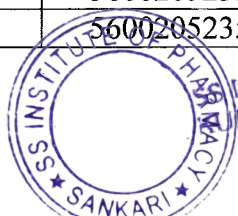
NAME OF ADD ON COURSE : BIOMECHANICS AND ORTHOPAEDIC IMPLANTS

COURSE INSTRUCTORS : PRAVINKUMAR.S

YEAR OFFERED : 4th SEM B.PHARM

COURSE DURATION : 36hrs

S.NO	NAME OF STUDENT	REGISTER NO	MARKS (15)	PERCENTAGE (%)
1.	ABINAYA.M	560020523501	12	80%
2.	ABISHEK.J	560020523502	12	80%
3.	AMOKA.V	560020523503	14	93%
4.	ANBUSELVAN.V	560020523504	13	86%
5.	ANBUSELVI.S	560020523505	13	86%
6.	ANITHA.L	560020523506	12	80%
7.	ARAVIND.R	560020523507	14	93%
8.	ARCHANA.M	560020523508	13	86%
9.	ARUN VENKATESHWARAN.S	560020523509	13	86%
10.	ARUN.A	560020523510	13	86%
11.	ASWIN.M	560020523511	14	93%
12.	ATCHAYA.K	560020523512	13	86%
13.	BANU.S	560020523513	12	80%
14.	BAVITHRA.B	560020523514	15	100%
15.	BHARATHI RAJA.S	560020523515	12	80%
16.	BHARATH KUMAR.R	560020523516	15	100%
17.	DEEPASRI.P	560020523517	13	86%
18.	DINESH.S	560020523518	15	100%
19.	GOPIKRISHNAN.V	560020523519	12	80%
20.	GOWSALYA.V	560020523520	13	86%
21.	GULBAHAR.G	560020523521	14	93%
22.	HEMADHARAN.V	560020523522	15	100%
23.	ISHWARYA.S	560020523523	13	86%
24.	JEYASURYA.V	560020523524	12	80%
25.	KESAVAMUGILESH.M	560020523525	12	80%



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29.	NARESH KUMAR.M	560020523529	13	86%
30.	NARMATHA.M	560020523530	13	86%
31.	PAPITHA .V	560020523531	15	100%
32.	PRAGATHI .P	560020523532	12	80%
33.	PRASANTH .M	560020523533	13	86%
34.	PRIYADARSHINI .V	560020523534	13	86%
35.	RAJALAKSHMI .N	560020523535	12	80%
36.	RAJARAJAN .M	560020523536	13	86%
37.	SATHISHKUMAR .J	560020523537	12	80%
38.	SHIRLEY ELIZABETH.I	560020523538	13	86%
39.	SIVA S.V	560020523539	15	100%
40.	SIVAPRAKASH .V	560020523540	15	100%
41.	SUDHA D.G	560020523541	13	86%
42.	SUNDARAKANNAN .D	560020523542	12	80%
43.	SURIYA .G	560020523543	12	80%
44.	SWATHY .M	560020523544	13	86%
45.	SYED YASIN S.M	560020523545	12	80%
46.	TAMILARASAN .A	560020523546	14	93%
47.	THAMIZHARASAN .N	560020523547	15	100%
48.	THILAGAVATHI .M	560020523548	14	93%
49.	THIRUMURUGAN .R	560020523549	13	86%
50.	UMAVATHI .P	560020523550	14	93%
51.	VALLARASU.D	560020523551	15	100%
52.	VASANTHRAJ .S	560020523552	13	86%
53.	VINOTH SANJAY.T	560020523553	13	86%
54.	VINOTH .S	560020523554	13	86%
55.	VISHWA .M	560020523555	13	86%
56.	VISHWANATHAN .V	560020523556	13	86%
57.	CHANDURU .R	560021523561	15	100%
58.	NISHA .P	560021523562	13	86%

TOTAL NUMBER OF STUDENT : 58

TOTAL NUMBER OF PERCENTAGE : 88.1%



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ADD ON COURSE : SUMMARY REPORT

Course code and Name : 23BOI04/ Biomechanics And Orthopaedic Implants

Date Of Add On Programme : 12/07/2023 to 25/07/2023

Course Duration : 36 Hours

Year Offered : 7th & 4th Sem B.Pharm

Course Instructors : S.Pravin Kumar.,M.Pharm.

Course Outcomes :

- **Implant Performance and Testing:** Explore methods for testing and evaluating the performance of orthopaedic implants. This includes mechanical testing, fatigue analysis, and simulation techniques to assess implant behavior under physiological loads.
- **Biomechanical Modeling and Simulation:** Gain proficiency in biomechanical modeling and simulation techniques. Learn to use computational tools and software to model implant interactions with bone and soft tissues, predict outcomes, and optimize designs.

Course Type : Add on Course

Assessment Mode:

Total Duration : 36 Hours

Number of Participants : 58

Scheme of Exam : MCQ type, offline Mode

Date of Exam : 25/07/2023

Course Coordinator



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SS INSTITUTE OF PHARMACY CERTIFICATE OF PARTICIPATION



ONE DAY WORKSHOP
Organized by
Department of,
PHARMACEUTICAL BIOTECHNOLOGY

.....S. VASANTH RAJ.....

HAS APPRICATED FOR HIS / HER
PARTICIPATION IN ONE DAY SEMINAR ON
BIOMECHANICS AND ORTHOPAEDIC
IMPLANTS

.....12/07/2023 TO 25/07/2023.....

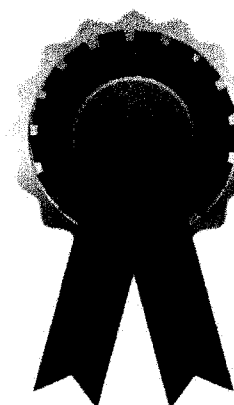


COORDINATOR



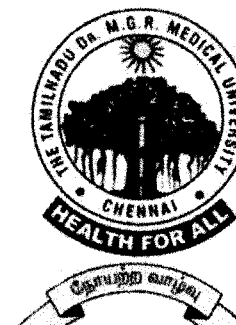
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Department of,
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.....R. CHANDRU.....

HAS APPRICATED FOR HIS / HER
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IMPLANTS

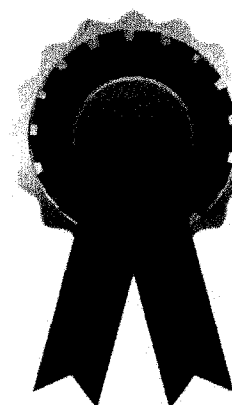
.....12/07/2023 TO 25/07/2023.....

COORDINATOR



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STUDENT FEEDBACK FORM

STUDENT NAME: B. Bavithra

DATE: 25/07/2023.

YEAR/COURSE: B. Pharm - IV Sem.

NAME OF THE ADD ON COURSE: Biomechanics & orthopaedic in plants.

COURSE CODE: 23BOIO4

DURATION: 36 hrs.

EVALUATE HONESTLY:

Questions	Excellent	Good	Fair	Poor
How was the objectives of the training	✓			
How satisfied are you with our seminar		✓		
How would you rate the clarity and effectiveness of the presenter's delivery			✓	
Was the seminar duration appropriate	✓			
How engaging and interactive was the seminar		✓		
Usefulness of the information provided	✓			
Overall quality of session		✓		



[Signature]

SIGNATURE

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PHOTOGRAPH

DATE : 13/7/23

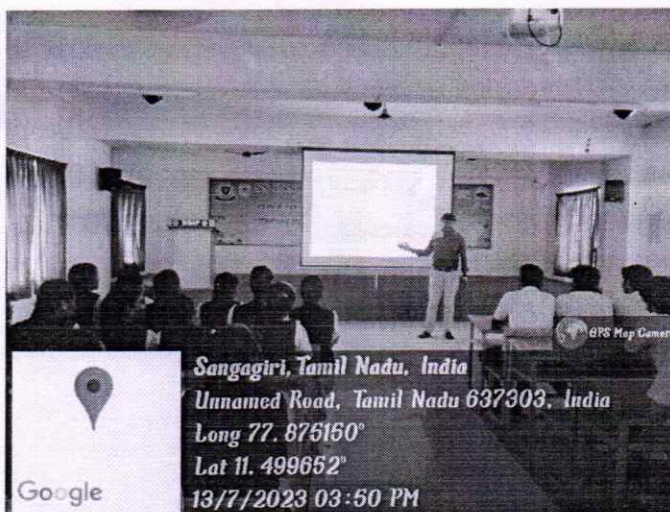
BIOMECHANICS AND ORTHOPAEDIC IMPLANTS

NAME OF ADD ON COURSE : BIOMECHANICS AND ORTHOPAEDIC IMPLANTS

COURSE INSTRUCTORS : PRAVINKUMAR.S

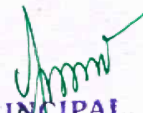
YEAR OFFERED : 4th SEM B.PHARM

COURSE DURATION : 36 hrs



Add-on course regarding the Topic Application of Biomechanics And Orthopaedic Implants
13/7/23 the speech delivered By **S.Pravin Kumar.,M.Pharm.** which was an interactive session and
students could able to understand the Application of Biomechanics And Orthopaedic Implants in the
fields of pharmaceutical sciences




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