

To:

The Principal

NTR Government Degree College(W) Mahabubnagar.

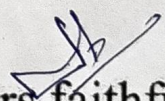
Sub: Requesting to conduct Certificate Course on "STEM CELL TECHNOLOGY for the students of B.Sc.(life Science) II & III year for the academic year 2022-2023- reg.

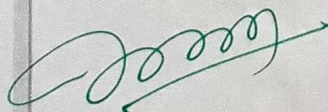
Ref: Resolution of the meeting conducted by the Dept. of biotechnology held on 20.10.2022 and Almanac of Palamuru University.

Respected Sir,

With Reference to the above based on the resolution of the meeting conducted by the Dept. of Bio technology held on 20 .10 .2022 the department is decided to conduct a certificate course named "Stem cell technology" for the students of B.Sc. (life Science) II & III year for the academic year 2022-2023 in the month of November & December.

Hence, I here with am attaching the complete schedule and syllabus. Requesting you to permit to conduct the certificate course and do the needful in this regard.


Yours faithfully



DEPARTMENT OF BIO TECHNOLOGY

Date: - 7/10/2022

NOTICE

It is hereby informed that the Department of Bio technology is offering an interdisciplinary Certificate Course on "STEM CELL TECHNOLOGY

"FOR ACADEMIC YEAR 2022-2023. All the students of B.A, B.Com, & all year's students are eligible to apply for the above course.

The interested candidates can contact Department of Bio technology to register their names

The Classes of the course will commence on 20/10/2022.

DETAILS OF STUDENTS ENROLLED

| Sl.No. | Name of student | Roll.no | Signature |
|--------|----------------------------|------------------------|----------------------------|
| 1 | A. RAGHAVI | 2003303000487. 001. | Ravi Raghavi |
| 2. | NAGALAXMI | 002. | Shivani |
| 3. | S. SHIVANI | 003. | Shivani |
| 4. | T. SRILEKHA | 20033030489003. | Srilekha |
| 5. | FAREESA NAAZ | 20033030572001. | Fareesa Noor |
| 6. | K. SRIVANI | 004. | Srivani |
| 7. | P. SNEHALATHA | 006. | Snehalatha. |
| 8. | V. HARIKA | 007. | Harika. |
| 9. | JOSHNA | 20033030906001 | Joshna |
| 10. | C. AKHILA | 20033030908003 | Akhila |
| 11. | D. SHRAVYA | 004 | Shravya. |
| 12. | K. MANASA | 006 | |
| 13. | AMATUL MUHAMMAD AIMA -N | 20033030910001 | Mangsha Amatul |
| 14. | J. PAVANI | 005 | J. Pavani |
| 15. | K. SATHVIKA. | 007. | Sathwika |
| 16. | A. AKSHAYA. | 210330304891001 | Asha |
| 17. | A. CHETANA. | 1002 | Chetana |
| 18. | M. RADHIKA. | 1004 | Radhika |
| 19. | P. CHAITANYA. | 1005 | Chaitanya |
| 20. | S. VANITHA. | 1007 | Vanitha |
| 21. | AYESHA SIDDIQUA | 210330309081001 | Ayesha |
| 22. | K. SWATHI | 1003 | Swathi |
| 23. | MALIHA MUBEEN | 1004 | Mubeen |
| 24. | NAMREEN | 1005 | Namreen |

NTR GOVT DEGREE COLLEGE FOR WOMEN, MBNR

CHOICE BASED CREDIT SYSTEM (CBCs) 2022-23

DEPT OF BIOTECHNOLOGY

CERTIFICATE COURSE

STEM CELL TECHNOLOGY

Periods:30

COURSE CONTENT

UNIT 1: Introduction to stem cells. (6 periods)

1.1 Definition, properties of stem cells, proliferation.

1.2 Culture of stem cells.

1.3 Medical applications of stem cells,

Unit 2 :Types of stem cells. (7 Periods)

2.1 Stem Cell biology and Therapy, Types of embryonic stem cells.

2.2 Adult stem cell Biology and Therapy Embryonic stem cells. 2.3 Culture and the potential- benefits of Stem Cell Technology.

Unit 3: Therapeutic applications of stem cells. (09 Periods)

3.1 Gene Therapy: Introduction, History and evolution of Gene therapy.

3.2 Optimal disease targets, Failures and successes with gene therapy and future prospects.

3.3 Genetic perspectives for Gene Therapy, Gene delivery methods.

3.4 Viral vectors and Non-viral vectors.

Unit 4: Pluripotent Stem Cell Culture and Differentiation Methods. (8 periods)

4.1 Isolation of Human embryonic stem cells, generation of human induced Pluripotent Stem cell.

4.2 Methodologies for Pluripotent Stem cell culture, characterization of pluripotency and differentiation.

4.3 Methods to engineer Pluripotent Stem cells for treatment of genetically impaired conditions/diseases.

• **Objectives:**

1. The ability to repair or replace damaged tissues and organs, such as the heart, liver, or kidneys, using stem cell-based therapies or tissue engineering techniques.
2. The potential to develop new treatments for currently incurable neurological diseases, such as Parkinson's Disease and Multiple Sclerosis.
3. By watching stem cells mature into cells in bones, heart muscle, nerves, and other organs and tissue, researchers may better understand how diseases and conditions develop.
4. Generate healthy cells to replace cells affected by disease

CLASS SUBJECT BioTech COURSE AFETI

STEM CELL TECHNOLOGY

| Roll No. | NAME OF THE STUDENT | No. of Lecturers | CLASS | | | | | | | | | | | | |
|----------|-----------------------|------------------|--|---|---|---|---|---|---|---|---|----|----|----|----|
| | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | | Month: OCTOBER | | | | | | | | | | | | |
| | | | Date: 20/10, 21/10, 22/10, 23/10, 24/10, 25/10, 26/10, 27/10, 28/10, 29/10, 30/10, 31/10 | | | | | | | | | | | | |
| | | | Total No. of Attendance | | | | | | | | | | | | |
| | | | Sign. of Lecturer | | | | | | | | | | | | |
| 5030-001 | A. RAGHAVI | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 8 | 9 | 10 | 11 | 12 |
| 002 | NAGALAXMI | | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 11 |
| 003 | S. SHIVANI | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 5030-005 | T. SRILEKHA | | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 10 | 11 |
| 004 | FAREESA NAZ | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 12 |
| 004 | K. SRIVANI | | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 006 | P. SNEHALATHA | | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 007 | V. HARIKA | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 206-001 | JOSHNA | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 908-003 | C. AKHILA | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 009 | B. SHRANYA | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 9 | 10 | 11 |
| 006 | K. MANASA | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 8 | 9 | 10 | 11 | 12 |
| 10-001 | AMATUL MUHAMMAD AIMAN | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 005 | J. PAJANI | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 11 |
| 007 | K. SATHVIKA | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 0489-001 | A. AKSHAYA | | 0 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 1002 | A. CHETANA | | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 11 |
| 1004 | M. RADHIKA | | 1 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1005 | P. CHAITANYA | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 12 |
| 007 | S. VANITHA | | 0 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 08-100 | AYESHA SIDDIQUA | | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1003 | K. SWATHI | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1004 | MALITHA MUBEEN | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1005 | NAMREEN | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 1007 | SAMIYA SHAZ | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1008 | S. ANUSHA | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1009 | SUMAYYA BEGUM | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1010 | ZUNAZRA TAUQUEER | | 0 | 1 | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1001 | M. VAISHNAVI DENT | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 12 |
| 1002 | NABEELA MAHEEN | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| CLASS | | SUBJECT | | | | | | | | | | | | |
|-------|--|----------|----|----|----|----|----|----|----|----|----|----|----|----|
| | | NOVEMBER | | | | | | | | | | | | |
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| | | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
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| | | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| | | 13 | 14 | 15 | 16 | 17 | 17 | 18 | 19 | 20 | 20 | 21 | 22 | 23 |
| | | 12 | 13 | 14 | 15 | 16 | 17 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| | | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 25 |
| | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | 14 | 15 | 16 | 17 | 18 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 |
| | | 14 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
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| | | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 25 |
| | | 14 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 24 |
| | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| | | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |

NTR GOVT. DEGREE COLLEGE FOR WOMEN

MAHABUBNAGAR

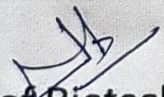
Accredited by NAAC with "B"Grade

DEPARTMENT OF BIOTECHNOLOGY


CERTIFICATE



This is certified that A. AKSHAYA Roll No 2103-3030-489-001 has successfully completed this certificate course in STEM CELL TECHNOLOGY conducted from 20.10.2022 to 08.12.2022


Department of Biotechnology




Principal signature