

**Dr B R AMBEDKAR OPEN UNIVERSITY**

Hyderabad, Telangana

**Programme Project Report – PPR**

**Name of the Faculty/Department: SCIENCE / MATHEMATICS**

**Name of the Programme : M. Sc Mathematics / Applied Mathematics**

S.No.	Parameters	Details
a.	Programmes mission & objectives: <i>(its alignment with industrial/ learner demands)</i>	<p><b>Mission:</b>                      To provide high standards of excellence in generating and propagating knowledge in mathematics and enable education affordable the deprived and disadvantage sections.</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"> <li>• To produce highly qualified, motivated man power with understanding of detailed knowledge on Mathematical Sciences.</li> <li>• To produce trained man power for under taking research and teaching in Mathematics and Applied Mathematics.</li> <li>• To provide students with the optimal balance between a defined sequence of study and flexible course options.</li> <li>• To study essential topics in Calculus, Linear Algebra and Differential Equations that can be applied directly to build applications in Coding and Cryptology, Mathematical Physics, Mathematical Biology, Bioinformatics and Finance.</li> <li>• To emphasize advanced developments in the field of Analysis, Fluid Mechanics, Mathematical Physics and Scientific Computing.</li> <li>• To develop awareness, aspiration and innovative ability to solve new scientific problems.</li> <li>• To provide opportunities for advanced theoretical and practical learning in the Mathematics for those interested in careers deriving in this field.</li> <li>• To conduct research to advance knowledge and its application and to advance the teaching and learning of Mathematics at all levels of education.</li> <li>• To apply their knowledge in Modern Industry or Teaching or Secure Acceptance in high - quality graduate programs in Mathematics and other fields such as the field of Quantitative / Mathematical Finance.</li> </ul>
b.	Relevance of program with Dr. BRAOU's Mission & Goals:	<p><b>The Vision:</b> The programme is relevant to Dr.BRAOU mission and goal i.e. Access to relevant quality education and training programmes for diverse sections of society with a</p>

		<p>focus on hitherto deprived sections at lower costs by using the modern technologies in teaching-learning processes as well as in administrative and support services.</p> <p><b>The Mission:</b></p> <ol style="list-style-type: none"> <li>1. Enrichment of on – going academic programmes.</li> <li>2. Competency building through education and training programmes</li> <li>3. Interactive individual based teaching learning processes</li> <li>4. Reliable and credible student evaluation system.</li> <li>5. Result oriented, accountable and transferent administrative and logistic support system, and</li> <li>6. Research, innovation, training and networking for system development and staff development.</li> </ol>
c.	<p>Nature of prospective target group of learners :</p> <ol style="list-style-type: none"> <li>1. Specify the target group:</li> <li>2. Needs of the target group:</li> </ol>	<ol style="list-style-type: none"> <li>1. Working Employees and Employees of Public and private sector who are having Under Graduation in any Science and technology discipline, who are not have advantage of conventional institutions of higher learning.</li> <li>2. Students with Under Graduation in any Science and technology, who seek higher level of employment with higher qualifications.</li> <li>3. Students who want to choose their carrier in R and D institutions and who are interested to begin his/her career in Mathematical Sciences.</li> </ol>
d.	<p>Appropriateness of program to be conducted in Open &amp; Distance Learning (ODL) mode to acquire specific skills &amp; competencies: Specify the expected learning outcomes in terms of:</p> <ol style="list-style-type: none"> <li>1. Learning outcomes :</li> <li>2. Knowledge attainment :</li> <li>3. Transferable Skills and Competencies:</li> <li>4. Reflection of academic, professional and occupational standards:</li> </ol>	<p>Highly appropriate programme for ODL mode as it provides a unique opportunity for pursuing higher education in Environmental Science to persons living in geographically remote areas of the state and also to those who could not pursue higher education for one reason or the other.</p> <ol style="list-style-type: none"> <li>1. To acquire both a conceptual and operational understanding of the mathematical areas.</li> <li>2. To develop highly qualified / trained Mathematicians to cater to the needs of the Industry, Teaching and Research Institutions.</li> <li>3. To develop skills and competencies to meet the global challenges in the subject of Mathematics.</li> </ol>

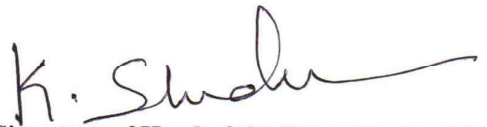


	<p>9. Student Support Service system (Specify the provisions to be made at HQs, Regional Centres, Learner Support Centres and Web based, etc):</p>	<p>Face to Face counseling sessions; Interactive Radio Counselling (IRC); Educational TV Broadcasts and web based counselling.</p> <p>Self-Learning Mode of material is provided in Print and online mode Audio, Video, AVPRC Website, TSAT, AIR, Web Radio, DD-Yadagiri and 36 BRAOU – You Tube Channels.</p> <p>Student support service is providing in the HQs and as well as in LSC centers.</p> <p>Student Support Arrangement Counseling cum Contact classes at Study Centers: 120 hours for contact cum counseling classes in the I year, 120 hours for contact cum counseling classes in II year.</p> <p>Print : Self Learning Material is provided by the University.</p> <p>Audio Lessons : Radio Lessons are aired.</p> <p>Video Lessons : Video Lessons and Tel-conference are broad cost through DD Yadagiri and T-SAT.</p> <p>Online: Audio-Video lessons are available for each student with user login ID and password through university website.</p> <p><b>Head Quarter:</b> Admission process, reviewing the policies, Study centers management, planning Academic calendar, Schedules planning and monitoring of implementation.</p> <p><b>Regional Centers:</b> Coordinating between Study Centers and Head Quarter.</p> <p><b>Study Centers:</b> Study centers plays key role in facilitating and conducting counseling sessions, collecting assignments, managing Exam centres for theory examinations. Guide the learner in pursuing and to complete the course. Create the Job awareness etc..</p>
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*Programme Project Report (PPR)*

S.No.	Parameters	Details
f.	<p>Procedure for admissions, curriculum transaction and evaluation:</p> <ol style="list-style-type: none"> <li>1. Define the admission policy <i>(including web based tools to be adopted)</i> :</li> <li>2. Eligibility criteria:</li> <li>3. Fee structure:</li> <li>4. Financial assistance to learners (if any):</li> <li>5. Activity planner of all academic activities of the academic session:</li> <li>6. Policy for Evaluation of learner progress along with methods and tools:</li> </ol>	<p>Admissions: Admission is mainly done through online form the eligible candidates.</p> <p>Curriculum is transacted mainly through printed. Self Learning Materials (SLMs), Face to Face counselling sessions, Audio and Video Programmes, Interactive Radio Counselling (IRC) educational TV broadcasts and web based counselling. Evaluation / Examinations are conducted at LSCs.</p> <p>B.Sc. or its equivalent in science/engineering</p> <p><b>Programme Fee:</b>                      I Year : Rs. 7800=00 (Tuition Fee + Admission fee).                      II Year : Rs. 7500=00 (Tuition Fee + Admission fee).                      Face to Face counselling are organized in the LSCs.</p> <p>Nil</p> <p>University academic almanac is followed.</p> <p>Examinations in the programme will be held twice in a year as Spell-I and Spell-II. The duration for the year-end examinations is 3 hours for each course and the maximum marks allotted for each course is 70 marks, of two sections. Section-A consists long answer questions, which carry for 40 marks, each question carries 10 marks. Section-B consists short answer questions, which carry for 30 marks, each question carries 6 marks. A student is required to answer 4 out of 8 questions given in Section-A, and 5 out of 10 questions given in Section-B. Duration is 3 hours.</p> <p>Online digital evaluation is conducting                      Formative 30%                      Summative 70%</p>
g.	<p>Requirement of the laboratory support and library resources:</p> <ol style="list-style-type: none"> <li>1. Laboratory support to the learners <i>(if any)</i>:</li> <li>2. Provision of Practical book for learners <i>(if any)</i>:</li> <li>3. Provision of Virtual Reality methods for Practicals in case of Online learning <i>(if any)</i>:</li> </ol>	<p><b>Library resources:</b> Library facility is available at all Learner Support Centres; Regional Centres and Headquarters of the University.</p> <p>Web based e- content (Open source), audio, video Recorded practical demonstration materials are provided.</p>

h.	<p>Cost estimate of the program and the provisions:</p> <ol style="list-style-type: none"> <li>1. Indicate the budgetary requirement for: <ol style="list-style-type: none"> <li>1. Programme Development</li> <li>2. Delivery</li> <li>3. Maintenance</li> </ol> </li> </ol>	<p>Programme development is an ongoing process and the programme is already on offer. However, before development of the programme, cost analysis was done at the level of the faculty.</p> <p>The University has dedicated budgetary provisions for programme development at the level of Academic, Material Production and Distribution (there is a dedicated full- fledged Material Production and Distribution Division for material production and distribution) and Electronic Media Production Centre (there is a dedicated full- fledged Electronic Media Production Centre for electronic media production).</p>
i.	<p>Quality assurance mechanism and expected program outcomes*:</p> <ol style="list-style-type: none"> <li>1. Define the review mechanism of the Programme for enhancing the standards of curriculum, instructional design relevant to professional requirements:</li> <li>2. Define Programme benchmark statements:</li> <li>3. Mechanism for monitoring the effectiveness of the programme:</li> </ol> <p>*Minimum standards must adhere to UGC (ODL) Regulations, 2017 and directions of the Statutory Bodies of the University</p>	<p><b>Quality assurance mechanisms</b></p> <p>Standard norms and procedures for course design and development;</p> <p>Standard norms and procedures for establishment of LSCs,</p> <p>Standard norms for appointment of academic counsellors and evaluators;</p> <p>Involving external experts in maintaining quality of curriculum design and development , including student evaluation;</p> <p>All activities of LSCs and examination centers are monitored by University.</p> <p>Assignments are being monitored by faculty to ensure the quality of continuous evaluation.</p> <p>Standardized its course ware based on the credit system. To further standardize its courses it has developed its own house style. There is a mechanism in place for continuous quality assessment for design, development and delivery of its academic programmes. The quality is assured at different phases by statutory bodies of the University namely: Board of Studies and Executive Council. Programme evaluation is the norm before undertaking revision of the programme. The above mechanism has been followed for this programme also.</p>



**Signature of Head of the Department with seal**

HEAD  
DEPARTMENT OF MATHEMATICS  
Dr.B.R.Ambedkar Open University  
Jubilee Hills, Hyderabad-500 033.



**Signature of Dean of the Faculty with seal**

DEAN FACULTY OF SCIENCE  
Dr. B.R. Ambedkar Open University  
Road No. 46, Jubilee Hills,  
HYDERABAD-500 033, A.P. INDIA.

**Signature of the Director Academic with seal**



Director (Academic)  
B.R. Ambedkar Open University  
Hyderabad-500 033.





S.No.	Parameters	Details (Please tick)
	(f) Teacher Growth & Skills	✓
	(g) Multiple learning for active learning	✓
	(h) Helps the learner to engage in Higher - order thinking skills	✓
	(i) Critical reasoning active and complex thinking	✓
	<b>V) SLM is :</b>	
	(a) Structured on LOCF (Learning outcome based curricular framework)	✓
	(b) Interactive has Two way communicative approach and conversational format	✓
	(c) Has experience based activities and assignments	✓
	(d) Has clearly stated learning outcomes or detailed concepts / learning map.	✓
	(e) Encourages learners to apply New knowledge and Skills	✓
	(f) Divided into blocks and units	✓
	(g) Has consistent lay out and format	✓
	(h) Has overview of content unit structure	✓
	(i) Introduction	✓
	(j) Expected learning outcomes	✓
	(k) Summary	✓
	(l) Sections and Subsections for presenting appropriate frequency	✓
	(m) Contains examples for national International case studies	✓
	(n) Explanation of icons, symbols and formula for used content	✓
	(o) Explanation of technical, new, difficult terms, in glossaries/keywords sections	✓
	(p) Inclusion of adequate reading material	✓
	<b>B. Audio-Video Material Audio Visuals Materials of the Course</b>	
	(a) Supplements and complements the Self learning Material	✓
	(b) Adequate consideration given for learners' prior knowledge skills and attitude.	✓



S.No.	Parameters	Details (Please tick)
	(b) Involves all the stakeholders	✓
	(c) Follows the University Grants Commission Model of Curriculum or learning outcomes based Curriculum Framework (LOCF) and incorporates local or regional needs	✓
	(d) Curriculum appropriate to the stage of learning.	✓
	(e) Linkages are given to previous and subsequent stages of learning.	✓
	(f) Provides learning experiences which allow in diversity of methods (like learning from practice, opportunities for distributed and concentrated practice, learning with peers, learning in formal situations inside and outside the department, personal study, specific teacher inputs etc).	✓
	(g) The structure of curriculum are defined.	✓
	(h) Strategy on teaching and learning methods is worked out.	✓
	(i) Instructional methods or pedagogy and the media mix are clearly spelt out.	✓
	(j) The content is reliable and justifies the learning outcome(s).	✓
	(k) Curriculum is relevant to national competency requirement.	✓
	(l) Description of credit value for each module or unit in the course is given.	✓



Head of the Department

**HEAD**  
DEPARTMENT OF MATHEMATICS  
Dr.B.R.Ambedkar Open University  
Jubilee Hills, Hyderabad-500 033.



Dean, Faculty of Sciences

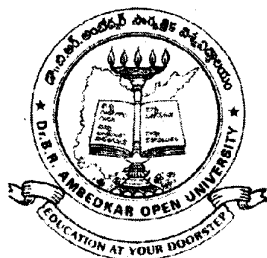
**DEAN FACULTY OF SCIENCE**

B. R. Ambedkar Open University

Director (Academic)



Director (Academic)  
B.R. Ambedkar Open University  
Hyderabad-500 033.



**Dr. BRAOU**

**Compliance status in respect of Self-Learning Material**

Name of Faculty / Department: *Science / Mathematics*  
Name of the Programme : *M.Sc*

S.No.	Parameters	Details (Please tick)
a. Guidelines on Self Learning Materials	<b>I) Preparation of Learning Material</b>	
	(a) Planning of the Self Learning Material	✓
	(b) Consideration for	✓
	(i) backgrounds of learner and learning needs	✓
	(ii) learning experiences	✓
	(iii) support and preparation in adapting to flexible learning.	✓
	<b>II) Development of SLM for</b>	✓
	(a) learning objectives	
	(b) assessment of prior knowledge	✓
	(c) learning activities	✓
	(d) feedback of learning activities	✓
	(e) examples and illustrations	✓
	(f) self-assessment questions / in-text questions	✓
	(g) summary / key points	✓
	(h) study guide	✓
	<b>III) Content of the learning material</b>	
	(a) emphasises on real world tasks.	✓
	(b) learner's choice of tasks or situations, case studies	✓

S.No.	Parameters	Details (Please tick)
	(c) collaborative learning tasks.	✓
	(d) opportunities for observing others	✓
	(e) self-evaluation.	✓
	<b>IV) Consideration the Learner Profile</b>	✓
	(a) literary level (including level of language proficiency)	✓
	(b) age group	✓
	(c) information communication Technology skills	✓
	(d) aim of study,	✓
	(e) personal background and home situation	✓
	(f) prior knowledge	✓
	(g) prior skills, learning situations etc.,	✓
	<b>V) Background of learner</b>	✓
	(a) It is considered the accessibility of course resources and references at the place of learning.	✓
	(b) Learning objectives and outcomes are considered prior to developing learning materials.	✓
	<b>VI) Group of Learning Material</b>	✓
	(a) SLM Course Materials	✓
	(b) e-books	✓
	(c) practical book	✓
	(d) student's handbook	✓
	(e) question bank,	✓
	(f) assignment book	✓
	(g) Audio Video material	✓
	(h) programme guide,	✓
	(i) project manual	✓



Head of the Department

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Dean, Faculty

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Director (Academic)

  
Director (Academic)

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