University of Mumbai
DEPARTMENT OF STUDENTS' DEVELOPMENT

15th Inter-Collegiate / Institute / Department
Avishkar Research Convention
(On Virtual Platform)

RULES AND REGULATIONS
(ONLY FOR THE YEAR 2020-2021)

1. **Introduction**

   In the present circumstances, it is not possible to organize Avishkar Research Convention as per regular mode. However, to keep the temperament of the research, the Board of Students' Development, University of Mumbai has decided to conduct this research activity on Virtual Platform. This year, as working in the laboratories would not be possible, therefore the convention will be based on the research proposal as well as preliminary work (if done) by the students.

   There will be two rounds for the convention-
   1) Selection Round (District/Zone Level)
   2) Final Round (University Level)

   In the selection round, the research proposal will be invited online. There will be no presentation of the research proposal. The submitted research proposal will be assessed by the juries as per the category and level and then selected research proposal will be invited for final round.

   In the final round, students whose research proposals are selected for final round will be invited for online presentation in front of jury panel.

2. **Categories and Levels**

Students of the University of Mumbai are allowed to participate in any of the following category / discipline irrespective of their own discipline / course-

Categories / Disciplines
Category 1: Humanities, Languages and Fine Arts
Category 2: Commerce, Management and Law
Category 3: Pure Sciences
Category 4: Agriculture and Animal Husbandry
Category 5: Engineering and Technology
Category 6: Medicine and Pharmacy

Students can participate in any of the above categories as per the levels whichever suits them as indicated below-
Levels
Level 1: Undergraduate Students (UG)
Level 2: Postgraduate Students (PG)
Level 3: Post PG Students (PPG)
Level 4: In-service Teachers (TH)

3. **Areas Covered under each Category**
Category 1: Humanities, Languages and Fine Arts
It covers research areas like languages, social sciences, fine arts, education, humanities and other related fields which are of social interest like agricultural extension, preventive medicine and veterinary sciences, etc.

Category 2: Commerce, Management and Law
It covers research areas like commerce, accountancy, management, banking, insurance, law and other fields where these disciplines are applicable.

Category 3: Pure Sciences
It covers areas like all basic sciences, soil sciences, home sciences and other fields like biotechnology, microbiology, environmental sciences, life sciences, biochemistry, biophysics, bioanalytical, etc.

Category 4: Agriculture and Animal Husbandry
It covers areas like horticulture, agriculture, agronomy, entomology, fisheries, animal husbandry and other fields like biotechnology, microbiology, biophysics, biochemistry, bioanalytical chemistry, etc. where agricultural and animal husbandry aspects are covered.

Category 5: Engineering and Technology
It covers all branches of engineering and technology. It also includes computer science, information technology, agricultural engineering, food technology, dairy technology, biophysics, biomedical and biosensor, etc. where engineering and technology aspects are covered.

Category 6: Medicine and Pharmacy
It covers all branches of medicine and pharmacy. It also includes veterinary medicine, preventive medicine, epidemiology, clinical studies, etc.

4.   **The General Eligibility Criteria for Participation**
   ● The student must be a full time bonafide student enrolled under University of Mumbai for UG / PG / M.Phil. / Ph.D. programme or any diploma course of a minimum duration of one academic year.
   ● Students enrolled in correspondence course in Recognized Institute / Centres or Departments of University of Mumbai **are not eligible.**
   ● Casual students, external students and students pursuing only bridge course from University of Mumbai and Colleges / Recognized Institutes affiliated to University of Mumbai **are not eligible.**
   ● Students having provisional admission **are not eligible**.
   ● Student can represent only that *College / Recognized Institute / Department of University of Mumbai* from where he/she is pursuing his/her degree / diploma.
   ● Student should have valid identity card of the *College / Recognized Institute / Department of University of Mumbai* from where he/she is pursuing his/her degree / diploma.
   ● Student migrating from other University can participate only when his / her admission is regularized and he / she gets admitted as a bonafide student.
   ● **Students from any discipline can participate in any category to which their research proposal fits.**
   ● **Students can present their research proposal in a group with maximum number of students not exceeding five.**
   ● **Student can not participate in more than one group.**
   ● Student can present their research proposal in English or Marathi or Hindi language.
   ● Any disqualification of participant from the given criteria may result in removal of the contingent from the Avishkar Research Convention and the candidate also will be debarred from participating in the Avishkar Research Convention to be held in the following year.
   ● Ethics of research must be delicately observed by students and his / her mentor.

5. **Eligibility Criteria for Categories and Levels**

The rules for each level are as follows-

Undergraduate Students (UG)

a) Student pursuing any bachelor degree or diploma (of duration not less than one academic year) after their 12th class examination and enrolled under University of Mumbai is eligible.

b) The age of the student should not be more than **25 years** as on June 30, 2021.

Post-Graduate Students (PG)

a) Student pursuing any master degree or post graduate diploma (of duration not less than one academic year) after their degree examination and enrolled under University of Mumbai is eligible.

b) The age of the student should not be more than **30 years** as on June 30, 2021.

Post PG Students (PPG)

a) Student acquired post graduate degree / diploma and pursuing / duly registered for M.Phil. / Ph.D. / D.Sc. / D.Litt. degree under University of Mumbai is eligible.

b) Student pursuing Post-doctoral Research under University of Mumbai is also eligible.

c) Student who has submitted their synopsis / thesis for his/her M.Phil. / Ph.D. degree and his/her viva-voce examination is awaited is also eligible.

d) Student who has successfully completed his/her viva-voce examination for his/her M.Phil. / Ph.D. Degree is not eligible.

e) There is **no age limit** for the Post PG students.

Teachers (TH)

a) Teacher must be an approved teacher of the University of Mumbai.

b) Teacher must be pursuing his/her M.Phil. / Ph.D. degree and must be registered under University of Mumbai.

c) Teacher who has submitted his/her synopsis / thesis for his/her M.Phil. / Ph.D. degree and his/her viva-voce examination is awaited is also eligible.

d) Teacher who has successfully completed his/her viva-voce examination for his/her M.Phil. / Ph.D. degree is not eligible.

e) There is **no age limit** for the teacher.

6. Mode of Convention / Competition

There will be two rounds -
1. Selection Round (District/Zone Level)
2. Final Round (University Level)

- **Selection Round**
  - Each *Affiliated College / Recognized Institute / University Department* can depute maximum 48 research proposals for the Selection Round, not exceeding 6 research proposals in each level per category.
  - Each *Affiliated College / Recognized Institute / University Department* will submit the detailed Research Proposal **online** in the **PDF format**. The necessary fields and word limit are as specified below.
  - Each Research Proposal will have following sections-

Section	Limit
(a) Title*	Maximum 15 Words
(b) Rationale and Gap Analysis (Justified with Suitable Literature)*	Maximum 500 Words
(c) Objectives*	Maximum 5
(d) Hypothesis	Maximum 2
(e) Research Design and Methods / Research Methodology*	Maximum 500 Words
(f) Preliminary Work / Survey	Maximum 300 Words
(g) Expected Outcome/s*	Maximum 300 Words
(h) Benefits to the Society*	Maximum 300 Words
(i) Cost Benefit Analysis	Maximum 200 Words
(j) Future Scope*	Maximum 200 Words
(k) SWOC Analysis / Limitations*	Maximum 200 Words
(l) References (Important Only)*	Maximum 20

These fields are mandatory while writing the research proposal.

- The research proposal which does not adhere to the above mentioned sections and the word limit will not be considered for the evaluation.
- The mandatory field should be the part of the research proposal, however, the non-mandatory fields can be chosen while writing the research proposal as per the need of the subject. Do not change the title of the sections.
- Do not mention the name of the participant or the *college/institute/department* in the research proposal.
- The college has to upload the complete research proposals of the students on the portal. **The research proposal will be in the PDF format and size of the PDF will not be more than 20 MB.**

- The research proposals will be evaluated by the jury panel.
- The short-listed research proposals will be eligible for the Final Round which will be displayed on the homepage of the **www.unimumbaidsd.com**

- **Final Round**
  - The Final Round will be on the Virtual Platform and the shortlisted research proposals from Selection Round will be presented by the students in front of the jury panel.
  - The link of the virtual platform will be provided to the student participant / college on Registered Email ID of the Student and Teacher Co-ordinator, two hours before the commencement of competition.
  - Student can present their research proposal in English or Marathi or Hindi language.
  - The presentation will be for 6 minutes followed by 4 minutes question answer / discussion. However, the time of question answer / discussion may vary according to the judges' choice.
  - Videos of prototype / models / working models / proposed models can also be presented within the allotted 6 minutes.
  - Best research proposals per category per level will be selected.

7. **Guidelines for making of Presentation**
   - The presentation can be made by using any tool or application but the supporting file/s or software must be installed in the presenter's device to avoid the last-minute delay/chaos.
   - Keep your presentation handy, possibly on the clean desktop.
   - Use minimum text on the slide/s.
   - Make use of suitable pictures / diagrams / graphs / tables, etc. in the presentation.
   - Keep the slides limited so as to finish presentation within the required time specified for competition.
   - The title and the slot number (to be displayed on the portal two days prior to the competition) of the research proposal should be mentioned on the first slide.
   - Do not mention the name of the participant or the *college/institute/department* on any of the slides.
   - Introduce yourself only with a slot number and do not reveal the identity or name of the *college/institute/department* during the presentation.

8. Online Registration for Participation
- Every interested *College / Recognized Institute / University Department* shall register themselves online on the portal available on the website **www.unimumbaidsd.com**

- **Steps for Registration**
  - Sign-up
  - Details of the College
  - Details of the Principal / Director / Head
  - Details of the Teacher Co-ordinator
  - Details of the Student Co-ordinator (Male)
  - Details of the Student Co-ordinator (Female)
  - Details of the Research Proposal
  - Details of the Participating Student/s
  - Details of Mentor/s

9. Registration Fees
- The Registration Fees is Rs. 50 per research proposal.
- The Registration Fees will be charged for Zonal / District level only and it will not be charged for University level.
- The Registration Fees is to be paid through cheque along with printouts of Consolidated Entry Form. The cheque should be drawn in favour of '**Finance and Accounts Officer, University of Mumbai**'. In any case Registration Fees will not be accepted in cash. The *College / Recognized Institute / University Department* shall send the cheque along with printout of Consolidated Entry Form to the Director, Department Students' Development, First Floor, Vidyapeeth Vidyarthi Bhavan, 'B' Road, Chrchgate, PIN.-400 020.
- The Registration Fees will not be refunded under any circumstances even though the entries are cancelled.

10. Criteria for Evaluation
- **Selection Round**

Innovation / Ideation **(30 Marks)**	- Scientific quality and innovation - Novelty of the proposed work (In terms area of work / method / time required / efficiency of the technique / economy, etc.) - Integration of multidisciplinary elements - Quality and creativity - Originality

Study Design and Methodology (30 Marks)	- Formulating hypothesis (Whenever applicable) - Adequate description of the context of the research - Scientific and/or technological excellence (Understanding of the concept and quality of objectives) - Relevance to the objectives - Application of sound investigative methodology - Clear explanation of the methods and its relevance to the stated goals - Major findings and outcomes reported - Clarity, coherence and appropriateness of the study design - Compliance with ethical principles - Organization and logical flow of ideas and materials
Feasibility (20 Marks)	- Quality and efficiency of implementation and management - Validation of the objectives - Reproducibility and efficiency - Sustainability - Appropriateness, effectiveness and feasibility of the overall implementation and integration - Cost effectiveness
Social Relevance (20 Marks)	- Appropriateness and relevance of the problem investigated - Significance and possible contribution to social benefits - Potential for impact through the development and use of study results - Prospects of wider application

- **Final Round**

Innovation / Ideation (20 Marks)	▪ Scientific quality and innovation ▪ Novelty of the proposed work (In terms area of work / method / time required / efficiency of the technique / economy, etc.) ▪ Integration of multidisciplinary elements ▪ Quality and creativity ▪ Originality
Study Design and Methodology **(25 Marks)**	▪ Formulating hypothesis (Whenever applicable) ▪ Adequate description of the context of the research ▪ Scientific and/or technological excellence (Understanding of the concept and quality of objectives) ▪ Relevance to the objectives ▪ Application of sound investigative methodology ▪ Clear explanation of the methods and its relevance to the stated goals ▪ Major findings and outcomes reported ▪ Clarity, coherence and appropriateness of the study design ▪ Compliance with ethical principles ▪ Organization and logical flow of ideas and materials
Feasibility **(20 Marks)**	▪ Quality and efficiency of implementation and management ▪ Validation of the objectives ▪ Reproducibility and efficiency ▪ Sustainability ▪ Appropriateness, effectiveness and feasibility of the overall implementation and integration ▪ Cost effectiveness
Social Relevance **(15 Marks)**	▪ Appropriateness and relevance of the problem investigated ▪ Significance and possible contribution to social benefits ▪ Potential for impact through the development and use of study results ▪ Prospects of wider application

Presentation Skills (20 Marks)	▪ Delivery attributes (speed, clarity, poise, recitation, etc.) ▪ Confidence ▪ Quality of images / graphics used in presentation ▪ Effective use of visuals / graphs / charts, images used in presentation ▪ Ability to complete presentation within the time limit ▪ Clear, concise, thoughtful responses to questions ▪ Involvement of fellow colleagues and work distribution among them (whenever applicable)

- **Awards and Honours**
  - ▪ **Selection Round**
    Certificate of Participation
    Every participant and his/her mentor will receive the e-Certificate of Participation.

    Certificate of Merit
    The participants and their mentors whose research proposals are qualified for Final Round will receive the e-Certificate of Merit.

    Zonal / District Championship
    Certificate for Zonal / District Championship will be given to the *College / Recognized Institute / University Department* whose maximum research proposals are qualified from the particular Zone / District for Final Round.

  - ▪ **Final Round**
    Certificate of Participation
    Every participant and his/her mentor will receive the e-Certificate of Participation.

    Certificate of Merit
    The participants and their mentors whose research proposals secured First Rank, Second Rank, Third Rank and Consolation shall receive the e-Certificate of Merit.

Category-wise Championship

Certificate for the Category-wise Championship will be given to the *College / Recognized Institute / University Department* scoring maximum points in a particular category.

The calculation of the points shall be done on the basis of 3 points for First Rank, 2 points for Second Rank and 1 point for Third Rank.

Overall Championship

Rotating Overall Championship Trophy and Certificate shall be given to the *College / Recognized Institute / University Department* who scores maximum points at the Final Round.

The calculation of the points shall be done on the basis of 3 points for First Rank, 2 points for Second Rank and 1 point for Third Rank.

Overall Runner Championship

Rotating Overall Runner Championship Trophy and Certificate shall be given to the *College / Recognized Institute / University Department* who scores second best maximum points at the Final Round.

The calculation of the points shall be done on the basis of 3 points for First Rank, 2 points for Second Rank and 1 point for Third Rank.

Overall Second Runner Championship

Rotating Overall Second Runner Championship Trophy and Certificate shall be given to the *College / Recognized Institute / University Department* who scores third best maximum points at the Final Round.

The calculation of the points shall be done on the basis of 3 points for First Rank, 2 points for Second Rank and 1 point for Third Rank.

Ten Grace Marks

All the participants securing First Rank, Second Rank and Third Rank from every level of each category shall be awarded with ten grace marks as per University Ordinance 0.229 after completion of the necessary formalities by the Examination Cell of the *College / Recognized Institute / University Department* / University of Mumbai. The Teacher Co-ordinator and/or concerned participant/s should download the Letter of Award for 10 Grace Marks from the website **www.unimumbaidsd.com** and complete the formalities as per the circular to be issued by Director, Students' Development in this concern.

Committee for Revision of Rules and Regulations for 15th Inter-Collegiate / Institute / Department Avishkar Research Convention

Dr. Sunil Patil	Director, Department of Students' Development, University of Mumbai	Chairman
Dr. (Mrs.) Minakshi Gurav	O.S.D., Avishkar Research Convention, University of Mumbai	Member
Dr. Sasi Menon	Director, Institute for Advanced Training and Research in Interdisciplinary Sciences, Sion, Mumbai	Special Invitee
Prof. (Dr.) Sunita Shailajan	Former Head, Department of Botany and Dean, Research, PI, DST-SERB, Ramnarain Ruia College (Autonomous), Matunga, Mumbai	Special Invitee
Dr. Bhushan Langi	Satish Pradhan Dnyanasadhana College, Thane	Member
Dr. Milind Kulkarni	Rishi Dayaram College and Seth Hassaram National College and Seth Wassiamull Assomul Science College, Bandra, Mumbai	Member
Ms. Roopa Rao	Nirmala Niketan College of Home Science, Churchgate, Mumbai	Member
Ms. Vrushali Kaneri	R.A. Podar College of Commerce and Economics, Matunga, Mumbai	Member