NATIONAL INSTITUTIONAL RANKING FRAMEWORK

Methodology for Ranking of Academic Institutions in India

(RANKING METRICS FOR RESEARCH INSITUTION)

Ministry of Human Resource Development
Summary of Ranking Parameters and Weightages - 2021

(Research Institution)

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Parameter</th>
<th>Marks</th>
<th>Weightage</th>
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<tr>
<td>1</td>
<td>Metric for Quantitative Research</td>
<td>100</td>
<td>0.30</td>
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<td>2</td>
<td>Metric for Qualitative Research</td>
<td>100</td>
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<td>3</td>
<td>Metric for Students and Faculty Contribution</td>
<td>100</td>
<td>0.20</td>
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<td>4</td>
<td>Outreach and Inclusivity</td>
<td>100</td>
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<td>5</td>
<td>Perception</td>
<td>100</td>
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<td>S.No.</td>
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<td>Ranking weight: 0.30</td>
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<td></td>
<td>A. Combined metric for Publications (PU): 50 marks</td>
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<td>B. Combined metric for Citations Index (CI): 25 marks</td>
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<td>C. Footprint of Projects and Professional Practice (FPPP): 25 marks</td>
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<td><strong>2.</strong></td>
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<td>A. Combined metric for publications in 1st Quartile JCR(JCRQ1): 30 marks</td>
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<td>B. Combined metric for Publications in Top 25 (TOP25): 30 marks</td>
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<td>C. IPR and Patents: Published and Granted (IPR): 20 marks</td>
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<td>D. H- Index (HI): 20 marks</td>
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<td></td>
<td>A. Combined metric for Faculty with PhD (or equivalent) and Experience (FQE): 40 marks</td>
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<td>B. Student Strength including Doctoral Students (SS): 30 marks</td>
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<td>C. Metric for Number of Ph.D. Students Graduated (GPHD): 30 marks</td>
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<td>A. Percentage of Students from other States/Countries (Region Diversity RD): 30 marks</td>
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<td>B. Percentage of Women (Women Diversity WD): 30 marks</td>
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<td>C. Percentage of SC/ST Students(SCTS): 20 marks</td>
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<td>D. Facilities for Physically Challenged Students (PCS): 20 marks</td>
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<td><strong>5.</strong></td>
<td>Perception (PR)</td>
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<td>A. Peer Perception: Employers &amp; Academic Peer (PR): 100 marks</td>
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</tbody>
</table>
1. Metric for Quantitative Research : 100 marks

- Ranking weight: 0.30
- Overall Assessment Metric:

  \[ QNR = PU (50) + CI (25) + FPPP (25) \]

- Component metrics based on :
  
  A. Combined metric for Publications : PU
  B. Combined metric for Citations Index : CI
  C. Footprint of Projects and Professional Practice : FPPP
A. Combined metric for Publications (PU): 50 marks

- \( PU = 50 \times f(P/F_{RQ}) \)
- \( F_{RQ} \) is the maximum of nominal number of faculty members as calculated on the basis of a required FSR of 1:15 or the available faculty in the institution.

- Sources: Third party sources.
B. Combined metric for Citations Index (CI): 25 marks

- \( CI = 25 \times f(CC/F_{RQ}) \)
- Here CC is Total Citation Count over previous three years.
- \( F_{RQ} \) is the maximum of nominal number of faculty members as calculated on the basis of a required FSR of 1:15 or the available faculty in the institution.
- \textit{Primary Data: Third Party Sources.}
C. Footprint of Projects and Professional Practice (FPPP): 25 marks

- \[ \text{FPPP} = \text{FPR} + \text{FPC} \]
- \[ \text{FPR} = 18.75 \times f(\text{RF}) \]
  - RF is average annual research funding earnings (amount actually received in rupees) per faculty at institute level in previous three years.
- \[ \text{FPC} = 6.25 \times f(\text{CF}) \]
  - CF is average annual consultancy amount (amount actually received in rupees) per faculty at institute level in previous three years.
2. **Metric for Qualitative Research (QLR): 100 marks**

- Ranking weight: 0.30
- Overall Assessment Metric:

  \[ \text{QLR} = \text{JCRQ1}(30) + \text{TOP 25}(30) + \text{IPR}(20) + \text{HI}(20) \]

The component metrics explained on following pages.

A. Combined metric for publications in 1st Quartile: JCRQ1
B. Combined metric for Publications in Top 25: TOP25
C. IPR and Patents: Published and Granted: IPR
D. H- Index: HI
A. Combined metric for publications in 1st Quartile JCR(JCRQ1): 30 Marks

- \( JCRQ1 = 30 \times f(JCRQ1/F_{RQ}) \)

- \( JCRQ1 \) is the weighted number of publications in 1st Quartile as ascertained from suitable third party sources.

- \( F_{RQ} \) is the maximum of nominal number of faculty members as calculated on the basis of a required FSR of 1:15 or the available faculty in the institution.

- Sources: Third party sources.
B. Combined metric for Publications in Top 25 (TOP25): 30 marks

- \( \text{TOP25} = 30 \times f(\text{TOP25P}/P) \)
- *P is weighted number of publications as ascertained from suitable third party sources.*
- TOP25P: Number of citations in top 25 percentile averaged over the previous three years.
- *Primary Data: Third Party Sources.*
C. IPR and Patents: Patents Published and Granted (IPR): 20 marks

- **IPR =** IPG + IPP

  \[\text{IPG} = 10 \times f(\text{PG})\]

- PG is the number of patents granted over the previous three years.

  \[\text{IPP} = 10 \times f(\text{PP})\]

- PP: No. of patents published over the previous three years.

- *Primary Data: Third Party Sources.*
D. H-Index: 20 marks

H-Index = 20*HI

HI is weighted number of H Index as ascertained from suitable third party sources (Web of science and Scopus)
3. Metric for Students and Faculty Contribution (SFC) : 100 marks

• Ranking weight: 0.20

• Overall Assessment Metric:

• $SFC = \text{FQE}(40) + \text{SS}(30) + \text{GPHD}(30)$

• The component metrics are explained on the following pages:

  A. Combined metric for Faculty with PhD (or equivalent) and Experience: FQE
  B. Student Strength including Doctoral Students: SS
  C. Metric for Number of Ph.D. Students Graduated: GPHD
A. Combined Metric for Faculty with PhD (or equivalent) and Experience (FQE): 40 marks

- \( F_Q = 20 \times (F_{RA}/95) \), \( F_{RA} < 95\% \);
- \( F_Q = 20, \ F_{RA} \geq 95\% \).

- Here \( F_{RA} \) is the percentage of Faculty with Ph.D. (or equivalent qualification) with respect to the total no. of faculty required or actual faculty whichever is higher, in the previous year.

F1=Fraction with Experience up to 8 years;
F2= Fraction with Experience between 8+ to 15 years;
F3=Fraction with Experience > 15 years.

- \( FE = 6 \ min \ (3F_1, 1) + 6 \ min \ (3F_2, 1) + 8 \ min \ (3F_3, 1) \)

  Rationale: Full marks for a ratio of 1:1:1

- \( FQE = FQ + FE \)

- Primary Data: Faculty List in the Prescribed Format.
B. Student Strength including Ph.D. students (SS): 30 Marks

- \( SS = f(N_T, N_E) \times 20 + f(N_p) \times 10 \)

- The functions \( f(N_T, N_E) \) and \( f(N_p) \) are functions to be determined by NIRF.

- \( N_T \): Total sanctioned approved intake in the institution considering all UG and PG programs of the institution.

- \( N_E \): Total number of students enrolled in the institution considering all UG and PG Programs of the institution.

- \( N_p \): Total number of students enrolled for the doctoral program till previous academic year.

- **Primary Data:** To be provided in a prescribed Format.
C. Metric for Number of Ph.D Students Graduated (GPHD): 30 Marks

- \( \text{GPHD} = 30 \times f(N_{phd}) \)

- \( N_{phd} = \) Average number of Ph.D students graduated (awarded Ph.D) over the previous three years.

- *Primary Data: Number of graduating Ph.D. Students as reflected in the approved Annual Report/Convocation Report to be provided in the prescribed format.*
4. Outreach and Inclusivity (OI): 100 marks

- Ranking weight: 0.10
- Overall Assessment Metric: \( OI = RD(30) + WD(30) + ESCS(20) + PCS(20) \)
- The component metrics are explained on following pages:
  
  A. Percentage of Students from other States/ Countries (Region Diversity): RD
  B. Percentage of Women (Women Diversity): WD
  C. Percentage of SC/ST Students: SCTS
  D. Facilities for Physically Challenged Students: PCS
A. Percentage of Students from other States/ Countries (Region Diversity RD): 30 marks

- RD = 25 \times \text{fraction of total students enrolled from other states} + 5 \times \text{fraction of students enrolled from other countries}

- Primary Data: To be provided in the prescribed format.
B. Percentage of Women (Women Diversity WD): 30 marks

- \( WD = 15 \times (N_{WS}/50) + 15 \times (N_{WF}/20) \)

- \( N_{WS} \) are the percentage of Women students.

- \( N_{WF} \) are the percentage of Women Faculty including the women members in senior administrative positions, such as Heads of Departments, Deans or Institute Heads.

- Expectation: 50% women students and 20% women faculty.

- *Primary Data: To be provided in the prescribed format.*
C. Percentage of SC/ST Students (SCTS): 20 marks

- SCTS = 20 × f(N_{sets})

- N_{sets} is the percentage of UG students being provided full tuition fee reimbursement by the institution to pursue their degree programs.

- *Primary Data: To be provided by the institution in the prescribed format.*
D. Facilities for Physically Challenged Students (PCS): 20 marks

- PCS = 20 marks, if the Institute provides full facilities for physically challenged students, as outlined.

  Else, in proportion to facilities.

- Basis: Verifiable Responses to Questions.

- Primary Data: To be provided in a prescribed format.
5. Perception (PR) – 100 marks

• Ranking weight: 0.1

• Overall Assessment Metric: PR = 100

• Component metrics are explained in the following pages:
  
A. Peer Perception: Employers & Academic Peer (PR) : 100 marks

• This is to be done through a survey conducted over a large category of Employers, Professionals from Reputed Organizations and a large category of academics to ascertain their preference for graduates of different institutions.

• Comprehensive list will be prepared taking into account various sectors, regions, etc.

• Lists to be updated periodically.