INDIA RANKINGS 2017

NATIONAL INSTITUTIONAL RANKING FRAMEWORK

Methodology for Ranking of Academic Institutions in India

Ministry of Human Resource Development

1. Salient Features

1.1 Methodology is based on developing a set of metrics for ranking of academic institutions, based on the parameters agreed upon by the core committee.

1.2 These parameters are organized into five broad heads, and have been further elaborated into suitable sub-heads. Each broad head has an overall weight assigned to it. Within each head, the various sub-heads also have an appropriate weight distribution.

1.3 An attempt is also made to identify the relevant data needed to suitably measure the performance score under each sub-head. Emphasis here is on identifying data that the institution can easily provide or is easy to obtain from third party sources and easily verifiable, where verification is needed. This is important in the interest of transparency.

1.4 A suitable metric is then proposed based on this data, which computes a score under each sub-head. The sub-head scores are then added to obtain scores for each individual head. The overall score is computed based on the weights allotted to each head. The overall score can take a maximum value of 100.

1.5 The institutions can then be rank-ordered based on their scores.

2. Eligibility for Common and Discipline Specific Rankings

2.1 Learning from our experience in the 2016 Rankings, it is proposed to have the following different ways of Ranking.

(i) This year, all candidate institutions, ***independent of their discipline*** or nature (comprehensive or otherwise) will be given a ***common overall rank[1]***, if they satisfy one of the following criteria

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[1] The parameters have been chosen in such a manner that these are equally relevant for various kinds of educational institutions. Data format is designed to ensure that the diversity of disciplines and their separate character are accounted for.

(a) They have a total of at least 1000 enrolled students (calculated on the basis of approved intake), OR

(b) The institution is a centrally funded institution/university of the Government of India.

(ii) Institutions will also be given a discipline specific rank as relevant.

(iii) Highly focussed institutions with a single main discipline (Engineering, Medical, Law, Management, Pharmacy or UG degree colleges in Arts, Science and Commerce, etc.) with less than 1000 enrolled students (as calculated on the basis of approved intake) will be given only a discipline specific rank.

(iv) *Schools or Departments of Universities or Institutions (such as Arts, Architecture, Engineering, Health and Life Sciences, Humanities and Social Sciences, Law Faculty, Medical School, Management Departments, Pharmacy etc.) will have to register separately and provide additional data (in the same common format) pertaining to the respective School or Department, if they desire to be included in the discipline specific ranking list. All institutions should seriously consider this option, if they wish to position their important Faculties/Schools at the national level.* ***Only options available on the registration portal will be considered for discipline specific rankings[2].***

(v) Undergraduate Teaching institutions (including degree colleges affiliated to a university) are also invited to participate. (Some of them may have a valid apprehension that they may not score well in research-related parameters on

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[2] If an engineering school of a University consists of a single engineering discipline with very few students, they would not be eligible for ranking even under the discipline specific category. Thus, if the engineering faculty of a University has only the Department of Electronics Engineering as its Engineering School, it need not apply for a separate discipline specific ranking under the engineering category.

a common ranking list, but they can still score high on may other parameters like Graduation Outcomes and Perception. In any case, they would receive a fair comparison in the separate rankings for colleges that will also be published this time, and in which the parameter weightages will be suitably modified.

(vi) Discipline specific ranks will be announced only in those disciplines where a significant number of institutions offer themselves for ranking, and the List includes some of the prominent institutions in that discipline, with an acceptable ranking score. The final decision on ranking of a discipline will therefore be decided by NIRF after analysing the data.

(vii) Open Universities and Affiliating Universities (whether State or Centre approved/funded) will not normally be registered for ranking. However, if these universities have a teaching or research campus of their own, they are welcome to participate with data pertaining only to their physical campuses. Data pertaining to their function as open or affiliating universities cannot be included in the submitted data.

(viii) Rankings will be considered only for those institutions that have graduated at least three batches of students in some programs. If no program run by the institution satisfies this requirement, the concerned institution will not be able to register for ranking.

2.2 While score computations for the parameters are similar for both kinds of rankings (i.e., common or discipline specific) on most counts, the weights are somewhat different on a few parameters, to take into account discipline specific issues.

2.3 Percentile calculations, where indicated, are done separately for the two sets of rankings.

3. Data Collection

3.1 In view of the absence of a reliable and comprehensive third-party Data-Base that could supply all relevant information (as needed for computing the said scores) it is imperative that the institutions that are desirous of participating in the ranking exercise, supply the data in the given format that is being made available on the NIRF portal, before the last date specified for this purpose. The deadlines will be separately announced on the NIRF portal.

3.2 It is required that the institutions upload the submitted data also on their own, publicly visible website in the interest of transparency. It is mandatory that institutions should host the data submitted for India Rankings 2017 on their website post the final submission and they should also provide an email address where they would receive comments and feedback. Institutions should pro-actively and objectively examine the comments and feedback received to effect corrections, if so warranted (within the time slot to be announced by NIRF on its website). All institutions have to mandatory host data submitted for India Rankings 2017 from 15th November 2016 onwards for a period of three years.

3.3 Institutions who fail to post the data submitted to NIRF on their own websites as indicated in 3.2, may not be ranked. **Thus, if the submitted data is not visible on the Institute's own website prominently (NIRF will do a limited checking on a random basis), its registration for ranking is likely to be cancelled after an initial Notice. In case this fact comes to the notice of the NIRF after the**

rankings have been announced, the Institution will be taken out of the ranking list, with an appropriate noting.

3.4 The data should remain on the institution's website in an archived form for the next 3 years to enable easy cross checking, where required. Institutions that fail to do this honestly or resort to unethical practices will be automatically debarred from participation in the future ranking surveys for a period of two years.

3.5 NIRF has been empowered to take up physical checks on the institution records and audited accounts where needed, to ensure that the principles of ethical behaviour are being adhered to. In case an institution is approached for carrying out any physical check, they are expected to co-operate. Non-cooperation may lead to debarring the institution from participation in the ranking exercise.

3.6 For some of the parameters (like Research, Patents etc.) the data will be populated from internationally available Data Bases (like Scopus, Web of Science, the Indian Science Index or other suitable sources as deemed appropriate by NIRF). Some of these are indicated in the Assessment Metrics. However, NIRF reserves the right not to use the data from any of these sources or include other sources, if so warranted. NIRF shall directly access data from these resources, or seek help from the resource publishers, as necessary.

3.7 NIRF also reserves the right to modify any of the metrics if it deems fit to do so in the interest of rationalisation necessitated by the exigencies or the nature of the data encountered. Any changes so made will be notified at the time of announcing the rankings.

4. Implementation Details

4.1 As in the previous year, the National Board of Accreditation (NBA) will continue to be the Ranking Agency on behalf of NIRF for 2017.

4.2 NIRF shall invite institutions interested to participate in the ranking exercise to register on the NIRF portal starting from 1st September 2016. The data should be submitted on an on-line facility created for this purpose latest by November 15, 2016.

4.3 NIRF, by itself or with the help of other suitably identified partner agencies will also undertake authentication of data, wherever felt necessary, and where feasible.

4.4 NIRF will extract the relevant information from this data and through software, compute the various metrics and rank institutions based on this data. This process is expected to be completed in about 3 months, and rankings published on the first Monday of April 2017.

5. Errors and Correction Policy

5.1 All efforts will be made to display the raw data on the NIRF website after due processing by NIRF for cross-checking by the institution. This is the data on which rankings would be finally computed. It will be the Institution's responsibility to ensure that the data published by NIRF accurately reflects the submissions by it. The institution will also be invited to check out the data supplied by or taken from third sources. If the Institution does not give any comments or feedback within a specified period on the displayed data, it will be assumed that this data is accurate. No petitions for corrections will be

accepted after the declared deadline, or after the rankings have been announced.

5.2 If it is found that an institution has deliberately manipulated the submitted data, causing erroneous rankings, NIRF will remove the institution from the ranking list and future rankings and publish a suitable note to this effect.

Summary of Ranking Parameters and Weightages- 2017

Sr. No.	Parameter	Marks	Weightage
1	Teaching, Learning & Resources	100	0.30
2	Research and Professional Practice	100	0.30
3	Graduation Outcomes	100	0.20
4	Outreach and Inclusivity	100	0.10
5	Perception	100	0.10

Sr.No.	Parameters	Marks
1.	**Teaching, Learning & Resources (TLR)** **Ranking weight: 0.30**	**100**
	A. Student Strength including Doctoral Students(SS): 20 Marks B. Faculty-student ratio with emphasis on permanent faculty (FSR): 30 marks C. Combined metric for Faculty with PhD (or equivalent) and Experience (FQE): 20 marks D. Financial Resources and their Utilisation (FRU): 30 Marks	
2.	**Research and Professional Practice (RP)** **Ranking weight: 0.30**	**100**
	A. Combined metric for Publications (PU): 30 marks B. Combined metric for Quality of Publications (QP): 40 marks C. IPR and Patents: Filed, Published, Granted and Licensed (IPR): 15 marks D. Footprint of Projects, Professional Practice and Executive Development Programs (FPPP): 15 marks	
3.	**Graduation Outcomes (GO)** **Ranking weight: 0.20**	**100**
	A. Combined metric for Placement, Higher Studies, and Entrepreneurship (GPHE): 40 marks B. Metric for University Examinations(GUE): 15 marks C. Median Salary(GMS): 20 marks D. Metric for Graduating Students Admitted Into Top Universities (GTOP): 15 marks E. Metric for Number of Ph.D. Students Graduated (GPHD): 10 marks	
4.	**Outreach and Inclusivity (OI)** **Ranking weight: 0.10**	**100**
	A. Percent Students from other states/countries (Region Diversity RD): 30 marks B. Percentage of Women (Women Diversity WD): 25 mark C. Economically and Socially Challenged Students (ESCS): 25 marks **D.** Facilities for Physically Challenged Students (PCS): 20 marks	
5.	**Perception (PR)** **Ranking weight: 0.10**	**100**
	A. Peer Perception: Employers and Research Investors (PREMP): 25 marks B. Peer Perception: Academic Peers(PRACD): 25 marks C. Public Perception (PRPUB): 25 marks D. Competitiveness (PRCMP): 25 marks	

1. Teaching, Learning & Resources (TLR): 100 marks

- **Ranking weight: 0.30**

- **Overall Assessment Metric:**

  TLR = SS (20) + FSR (30) + FQE (20) + FRU (30)

- **Component metrics based on :**

  A. **Student Strength including Ph.D. Students: SS**
  B. **Faculty-Student Ratio with emphasis on permanent faculty: FSR**
  C. **Combined metric for Faculty with PhD (or equivalent) and Experience: FQE**
  D. **Financial Resources and Their Utilisation: FRU**

A. Student Strength including Ph.D. students (SS): 20 Marks

- **$SS = f(N_T) \times 15 + f(N_P) \times 5$**

- The functions $f(N_T)$ and $f(N_p)$ are functions to be determined by NIRF. The functions will be notified at the time of announcing ranks.
- N_T: Total number of students studying in the institution considering all UG and PG Programs, excluding the Ph.D program. (Calculated on the basis of approved intake over the entire duration of the respective programs. For example for a UG Engineering program, the intake over 4 years will be considered, whereas for a UG B.A. degree program, intake over 3 years is appropriate).
- N_p = Total number of students enrolled for the doctoral program till previous academic year.

- *Primary Data: To be provided in a prescribed Format.*

B. Faculty-Student Ratio with emphasis on permanent faculty (FSR): 30 marks

- **FSR = 30 $\times$ [10 $\times$ (F/N)]**

- N: Total number of students studying in the institution considering all UG and PG Programs, including the Ph.D program ($N = N_T + N_p$)

- F: Full time regular faculty in the institution in the previous year.

- Regular appointment means Faculty on Full time basis. Faculty on contract basis/ad-hoc basis for a period of not less than 2 years will also be considered.

- Expected ratio is 1:10 to score maximum marks.

- **For F/N < 1: 50, FSR will be set to zero**.

- *Primary Data: Faculty List to be provided in the Prescribed Format.*

C. Combined Metric for Faculty with PhD (or equivalent) and Experience (FQE): 20 marks

- **$FQ = 10 \times (F/95)$, $F \leq 95\%$;**

- **$FQ = 10$, $F > 95\%$.**

- Here F is the percentage of Faculty with Ph.D. (or equivalent qualification), over the previous 3 years.

  F1=Fraction with Experience up to 8 years;

  F2= Fraction with Experience between 8+ to 15 years;

  F3=Fraction with Experience > 15 years.

- **$FE = 3\min(3F1, 1) + 3\min(3F2, 1) + 4\min(3F3, 1)$**

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

- **$FQE = FQ + FE$**

- *Primary Data: Faculty List in the Prescribed Format.*

D: Financial Resources and their Utilisation (FRU): 30 Marks

- **FRU = 10p(BT) + 10min(4*BC/BT, 1) + 10min(4*BO/3BT,1)**

- BT: Total Average Annual Expenditure/student for the previous three years: **(excluding expenditure on buildings)**

- BC: Average Annual *Capital* Expenditure per student on Academic Activities and Resources: (Library, New Equipment for Laboratories, Workshops, Studios, Other suitably identified academic activities) (**excluding expenditure on buildings**)

- *BO: Operational (or Recurring)* Expenditure per student on Faculty and Staff Salaries, Maintenance of Academic Infrastructure or consumables etc. on a per student basis: **(excluding maintenance of hostels and allied services)**

- The function p is the percentile fraction.

- *Primary Data: Figures in prescribed format for each activity.*

2.Research and Professional Practice (RP): 100 marks

- **Ranking weight: 0.30**

- **Overall Assessment Metric:**

  RP = PU(30) + QP(40) + IPR(15) + FPPP(15)

- **The component metrics explained on following pages.**

A. **Combined Metric for Publications: PU**
B. **Combined Metric for Quality of Publications: QP**
C. **IPR and Patents: Patents Filed, Published, Granted and Licensed: IPR**
D. **Footprint of Projects, Professional Practice and Executive Development Programs: FPPP**

A. Combined metric for Publications (PU): 30 marks

- **PU = 30 × p(P/F)**

- P is the number of publications = weighted average of two largest numbers given by Scopus, Web of Science, PUBMED, FT 45 (as feasible) over the previous 3 years.
- Let P1, P2 = Two largest of {PW, PS, PUBMED, FT45, …etc.}*, #
- P = 0.45P1 + 0.45P2 + 0.1PI
- PW: Number of publications reported in Web of Science.
- PS: Number of publications reported in Scopus
- PUBMED: Number of publications reported in PUBMED, etc.
- PI: Number of publications reported in Indian Citation Index.
- F is the nominal number of faculty members as calculated on the basis of an FSR of 1:10.
- Sources: WoS, Scopus, PUBMED, FT45 etc., and ICI.

> ***It is felt that PW and PS would suffice. However, if additional sources need to be considered, this computation will be done only for the top 200 institutions. For others, a nominal value based on percentiles will be used.**
>
> **# For discipline specific rankings, the sources and weights will be suitably tuned, as felt necessary**

- *Primary Data: From third Party Sources.*

B.Combined metric for Quality of Publications (QP): 40 Marks

- **QP = 15 ×p (CC/P) + 12.5 × p(NCI) + 12.5 × p(TOP25P)}**

- Here CC is Total Citation Count over previous 3 years.
- P is total number of publications over this period as computed for PU.
- CC, NCI and TOP25P computed as follows
- CC = 0.45CCW + 0.45CCS + 0.1CCI
- NCI = 0.5 NCIW + 0.5 NCIS
- TOP25P = 0.5 TOP25PW + 0.5 TOP25PS
- NCI: Field normalized citation index averaged over the previous 3 years.
- TOP25P: Number of citations in top 25 percentile averaged over the previous 3 years.

- *Primary Data: Third Party Sources like WoS, Incite, Scopus, Scival etc.*

C. IPR and Patents: Patents Filed, Published, Granted and Licensed (IPR): 15 marks

- **IPR = IPF + IPG + IPP + IPL**

- **IPF = $3 \times$ p(PF/F)**

- PF is the number of patents filed over previous 3 years.

  Primary Data for PF: Third Party Sources (Also to be collected from institutions in prescribed format as standby data).

- **IPG = $3 \times$ p(PG/F).**

- PG is the number of patents granted over the previous 3 years.

  Primary Data for PG: Third Party Sources (Also to be collected from institutions in prescribed format as standby data)

  IPP = $3 \times$ p(PP/F)

- PP: No. of patents published.

- *Primary Data for PP: Third Party Sources (Also to be collected from Institutions in prescribed format as standby data).*

- **IPL = $2 \times$ I(P) + $4 \times$ p(EP/F).**

- EP is the total earnings from patents etc. over the last 3 years.

  I(P) = 1, if at least one patent was licensed in the previous 3 years or at least one technology transferred during this period; 0 otherwise.

- F is the nominal number of faculty members as calculated on the basis of an FSR of 1:10.

- *Primary Data for EP: Institution to supply data on prescribed format.*

D. Footprint of Projects, Professional Practice and Executive Development Programs (FPPP): 15 marks

- **FPPP = FPR + FPC + EDP**

- **FPR = 5 × p(RF)**

- RF is average annual research funding earnings (amount actually received in rupees) at institute level for the previous 3 years.

- **FPC = 5 × p(CF)**

- CF is average annual consultancy amount (amount actually received in rupees) at institute level, for the previous 3 years.

- **EDP = 5 × p(EP)**

- EP = Average annual earnings from Full Time Executive Development Programs of a Minimum duration of one year over previous 3 years.

- *Primary Data: To be provided by the institution in prescribed format.*

3. Graduation Outcome (GO):100 marks

- **Ranking weight: 0.20**

- **Overall Assessment Metric:**

- **GO = GPHE(40) + GUE(15) + GMS(20) + GTOP(15) + GPHD(10)**

- **The component metrics are explained on the following pages:**

  A. **Combined metric for Placement, Higher Education and Entrepreneurship: GPHE**
  B. **Metric for University Examinations: GUE**
  C. **Median Salary: GMS**
  D. **Metric for Graduating Students Admitted Into Top Universities: GTOP**
  E. **Metric for Number of Ph.D. Students Graduated: GPHD**

A. Combined Metric for Placement, Higher Studies, and Entrepreneurship (GPHE): 40 marks

- **$GPHE = 30 \times (N_p/100 + N_{hs}/100) + 10p_3$**

- N_p = Percentage of graduating students (both at the UG and PG levels) placed through campus placement, averaged over previous 3 years.
- N_{hs} = Percentage of graduating students (both at the UG and PG levels) who have been selected for higher studies, averaged over the previous three years.
- $p_3 = p(N_E)$
- N_E = number of sustained spin-off companies set up over the previous 5 years period.

- *Primary Data for N_p: To be sought from the institution in a prescribed format giving names of companies, number of students recruited by each, and the maximum, minimum, average and median salary, offered by each (required also for 3C).*

- *Primary Data for N_{hs}: To be sought from the institution in the form of a prescribed Table giving names of Institutions students into which their students have been admitted (indicating the number of students in each).*

- *Primary Data for N_E: To be sought from the institution in a prescribed format giving names of companies (along with their creators' graduation profile) set up and sustained over the previous 5 years, in a prescribed format.*

B. Metric for University Examinations (GUE): 15 Marks

- **GUE = 15 × min [(N$_g$/80), 1]**

- N$_g$ is the percentage of Students (as a fraction of the approved intake), averaged over the previous 3 years, passing the respective university examinations in stipulated time for the program in which enrolled.

- *Primary Data: To be provided in a prescribed format.*

C. Median Salary(GMS): 20 Marks

- **GMS = 20 × p (MS)**

- MS = median salary of graduates from an institution.

- *Primary Data: To be made available by the institutions in the prescribed format giving names of companies, number of students recruited by each, and the maximum, minimum and median salary, offered by each. The overall minimum, maximum and median salary should also be provided.*

D. Metric for Graduating Students Admitted Into Top Universities (GTOP): 15 marks

- **GTOP = 15 × p(n_{top}).**

  $n_{top} = N_{top}/N_g$

- N_{top} = Number of graduating students who were admitted into a top university for higher studies in the previous year.

- N_g = Number of graduating students in the previous year.

- *Primary Data: Number and List of such students along with names of Universities/Institutions where admitted and year of admission, to be provided in a prescribed format.*

E. Metric for Number of Ph.D Students Graduated (GPHD): 10 Marks

- **GPHD = 10 × p(N$_{phd}$)**

- N$_{phd}$ = Average number of Ph.D students graduated over the previous 3 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(25) +ESCS(25) + PCS(20)**

- **The component metrics are explained on following pages:**

    A. **Percent Students from other states/ countries (Region Diversity): RD**
    B. **Percentage of Women (Women Diversity): WD**
    C. **Economically and Socially Challenged Students: ESCS**
    D. **Facilities for Physically Challenged Students: PCS**

A. Percent Students from other states/ countries (Region Diversity RD): 30 marks

- **RD = 25 × fraction of total students enrolled from other states + 5 × fraction of students enrolled from other countries**

- *Primary Data: To be provided in the prescribed format.*

B. Percentage of Women (Women Diversity WD): 25 marks

- **WD $= 10 \times (N_{WS}/50) + 10 \times (N_{WF}/20) + 5 \times (N_{WA}/2)$**

- N_{WF} and N_{WS} are the percentage of Women Faculty and students, respectively.

- N_{WA} is the number of women members in senior administrative positions, such as Heads of Departments, Deans or Institute Heads.

- Expectation: 50% women students and 20% women faculty and 2 women members in senior administrative positions required to score maximum marks.

- *Primary Data: To be provided in the prescribed format.*

C. **Economically and Socially Challenged Students (ESCS) : 25 marks**

- **ESCS $= 25 \times (N_{ecs}/50)$**

- N_{ecs} is the percentage of economically and socially challenged Students.

- Expectation: 50% economically and socially challenged students should be admitted to score maximum marks.

- *Primary Data: To be provided by the institution in a 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.*

  Supporting Data: Photographs of Facilities to be made available on the Institute Website.

5. Perception (PR) – 100 marks

- **Ranking weight: 0.1**

- **Overall Assessment Metric: P = PREMP(25) + PRACD (25)+ PRPUB(25) + PRCMP(25)**

- **Component metrics are explained in the following pages:**

  A. **Peer Perception: Employers and Research Investors: PREMP**
  B. **Peer Perception: Academic Peers: PRACD**
  C. **Public Perception: PRPUB**
  D. **Competitiveness: PRCMP**

A. Peer Perception: Employers and Research Investors (PREMP): 25 marks

- This is to be done through a survey conducted over a large category of Employers and Research Investors, Professionals from Reputed Organizations , Officials of Funding agencies in government, private sector, NGOs, etc.

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

- Lists to be updated periodically.

- *This will be based on an on-line survey carried out in a time-bound fashion to ascertain preferences of employers and funding agencies.*

B. Peer Perception: Academic Peers (PRACD): 25 marks

- This is to be done through a survey conducted over 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.

- *This will be based on an on-line survey carried out in a time-bound fashion.*

C. Public Perception (PRPUB): 25 Marks

- PRPUBLIC: Based on data collected online from general public, in response to advertisements.

- Would ascertain preference of general public for choosing institutions for their wards and friends.

D. Competitiveness (PRCMP): 25 Marks

- **PRCMP = 30 × p(N_aphd)**

- N_{aphd} = Number of PG and Ph.D Students admitted from top institutions in the previous year.

- *Primary Data: List of such students along with details of their institutions and year of graduation to be provided.*