NBA Accreditation and Teaching- Learning in Engineering
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Lecture 55
Students Performance

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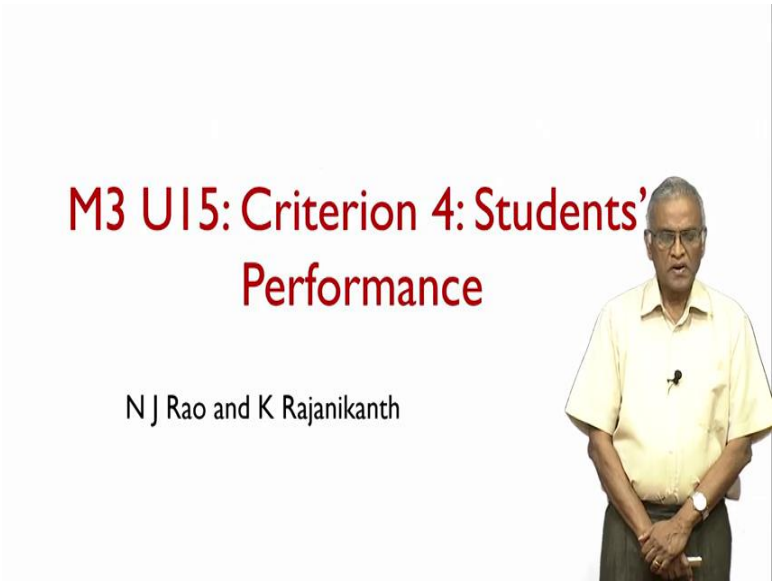

Greetings and welcome to NATE module 3 unit 15 on NBA criterion 4 regarding students performance.

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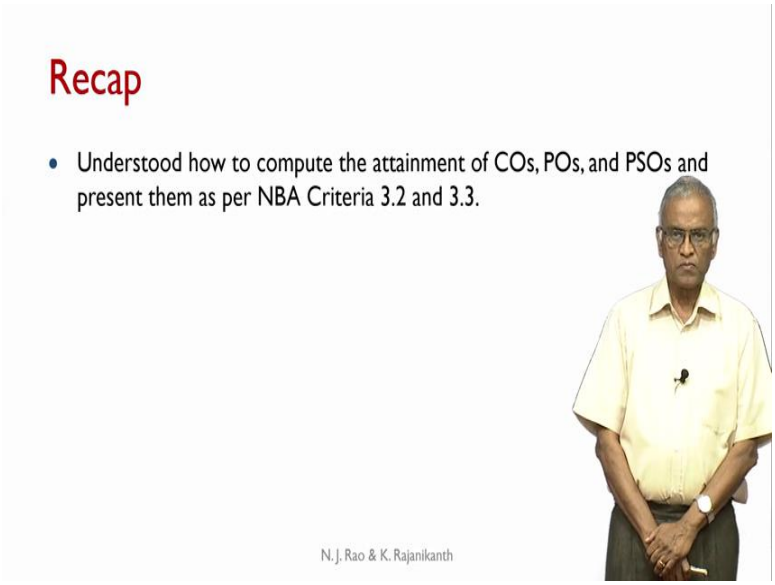

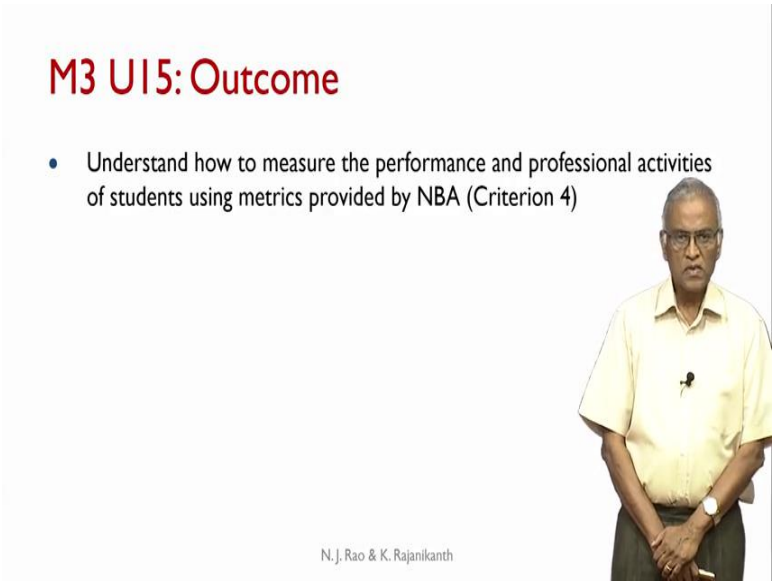

In the last unit, we understood how to compute the attainment of COs, POs and PSOs and present them in a format that is required by NBA criteria 3.2 and 3.3. Now, in this unit, we will try to understand how to measure the performance and professional activities of students using metrics provided by NBA.

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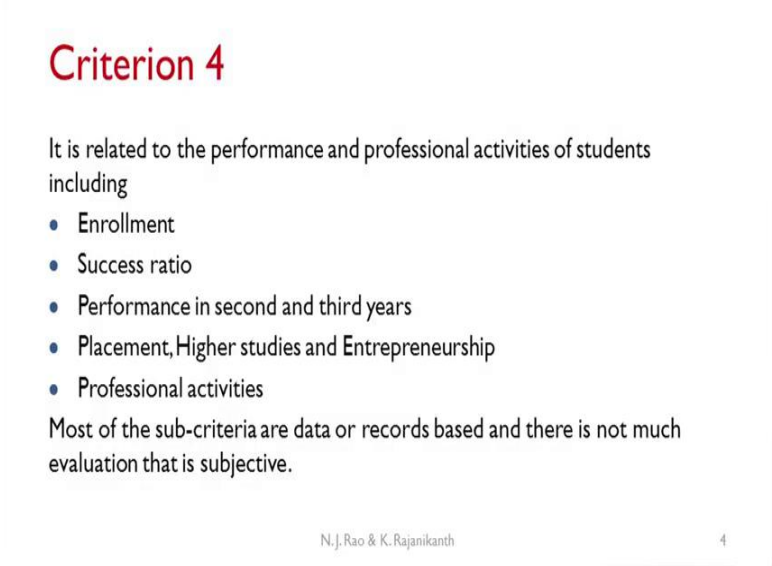

Now, criterion 4 is related to the performance and professional activities of students including enrolment, success ratio, performance in second and third years placement, higher studies and entrepreneurship and professional activities. Here, you need to note that most of the criteria are the sub criteria of criterion 4 are data or records based and there is not much evaluation that is subjective. There are one or two items that are subjective, but most of the information is in the form of data or records.

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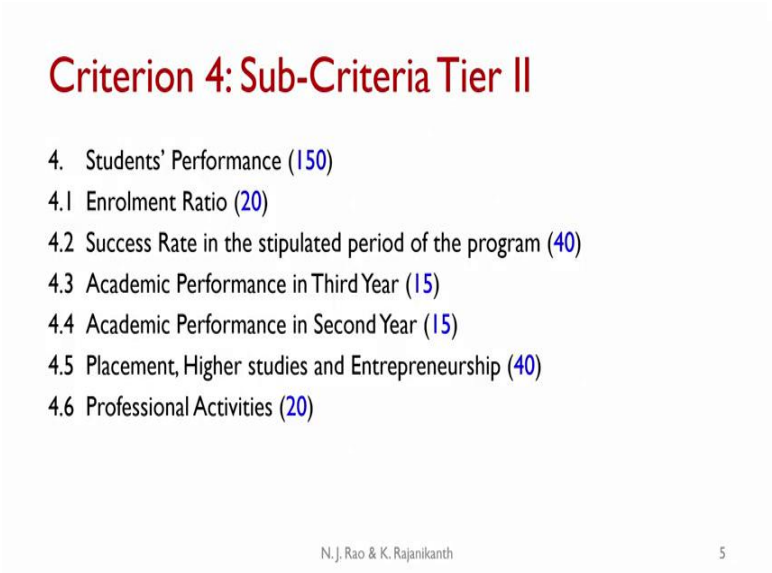

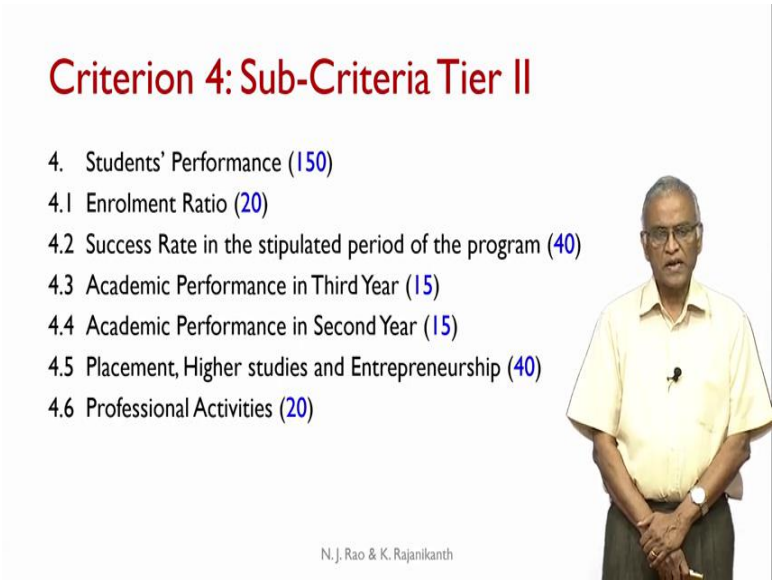

Now, there is some small difference between tier 1 and tier 2 institutions. We will start with tier 2 institution. The sub criteria of tier 2 of criterion 4, they are 4.1 that is enrolment ratio. It carries 20 marks out of 150 and 4.2 success rate in the stipulated period of the program that carries 40 and academic performance in third year that carries 15 academic performance in second year that carries 15, placement, higher education and entrepreneurship 40 and 4.6 is professional activities that carries 20.

In some strange way, the tier 1 sub criteria are somewhat different, we consider a bit of oversight, otherwise the criteria are somewhat similar, but the number of marks allocated to student performance is 100 compare to 150 in the tier 2 institutions. And here enrolment ratio is 20, success rate in the stipulated period of the degree program is 20. Academic performance in second year 10. Unfortunately, academic performance in third year was not include in that.

Then you have placement, higher studies and entrepreneurship 30, professional activities is 20. So, let us wherever they are common the method of measurement the evaluation guidelines are roughly the same between tier 1 and tier 2 institutions.

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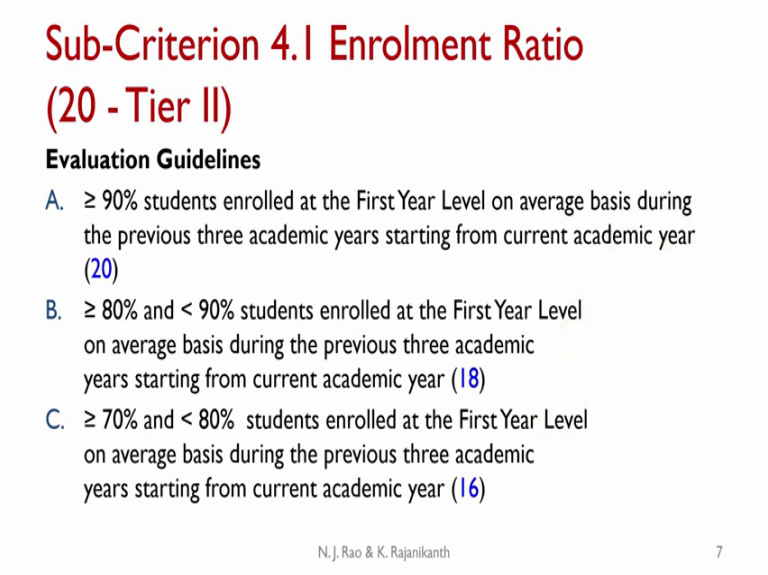

Now, let us look at enrolment ratio, 20 marks for tier 2. Here, it is completely data based, that is if the enrolment is more than 90 percent sanction strength are enrolled, that means you have admission 90 percent admission is there at the first year level on an average basis using the previous three academic years, starting from the current academic year. So you take average over the last three years and compute what percentage of admissions are there are here we are calling what percentage of students enrolled in the first year.

If that is more than 90 percent, you get 20 marks. And now, if it is between 80 and 90, the tier 2 institute will get 18 marks and if it is between 70 and 80 percent then you get 16 marks.

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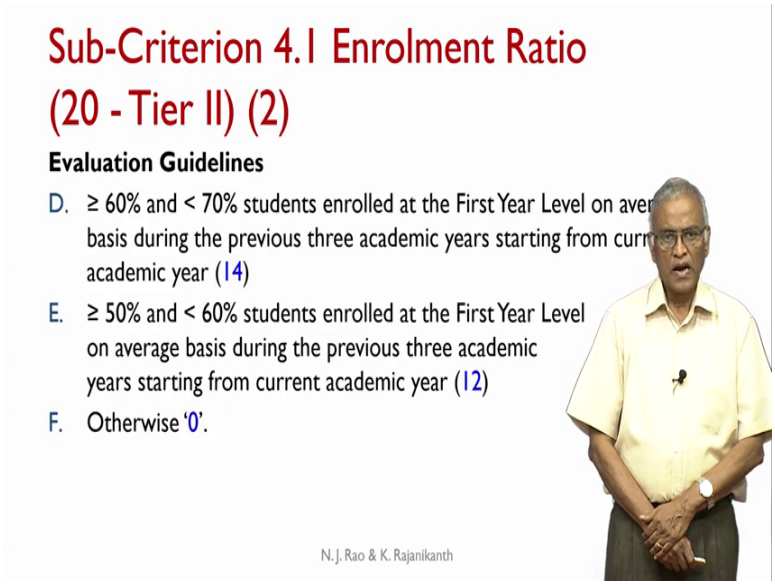

And if it is between 60 and 70, you get 14 if it is between 50 and 60 you get 12 anything less than that, that means if it is less than 50 percent, you get 0. That is that is a way the marks out of 20, they are that is you have to get minimum 12, you cannot go below that. Whereas it is slightly different for tier 1 institution.

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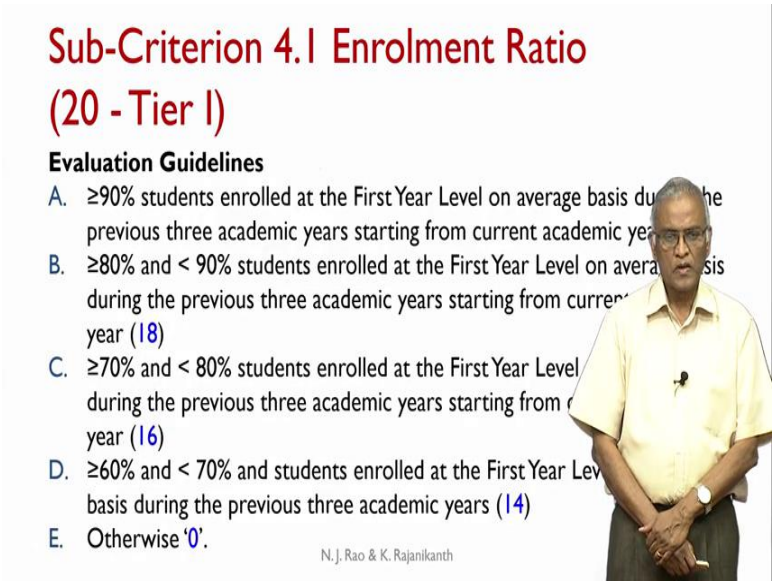

So, here also enrolment ratio carries 20 marks, but more than 90 percent the marks are 20 between 80 and 90 you have 18 between, 70 and 80, you have 16 and between 60 and 70, you

get 14, anything less than 60. Unlike 50 percent in the tier 2 institution, anything less than 60 you get 0. That is what the difference between tier 1 and tier 2 institutions.

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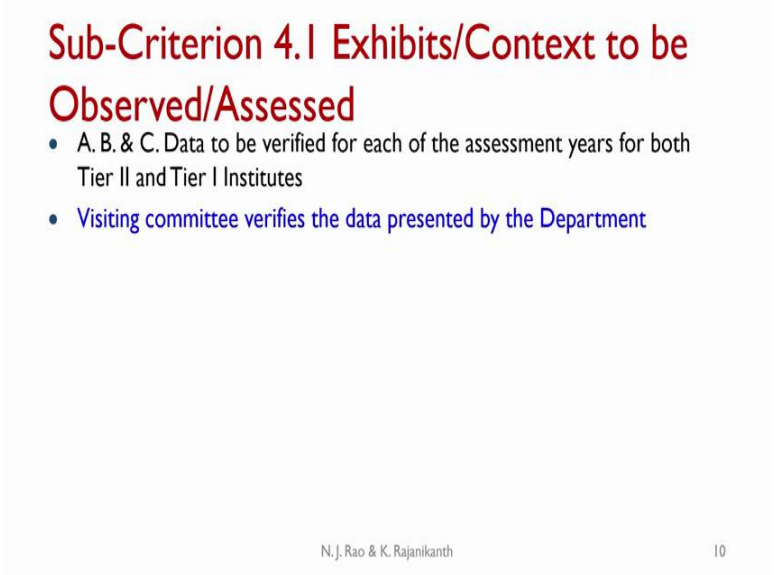

Now, how do you actually the it is assessed, the data is to be verified for each of the assessment years for both tier 2 and tier 1 institution. The data is collected presented in the actual exact form in which it has to be presented is given in the SAR document. So you present the data and the visiting committee verifies the data presented by the department. They will ask for the record and based on that, you award because the marks to be awarded is kind of fixed as given in the earlier slide.

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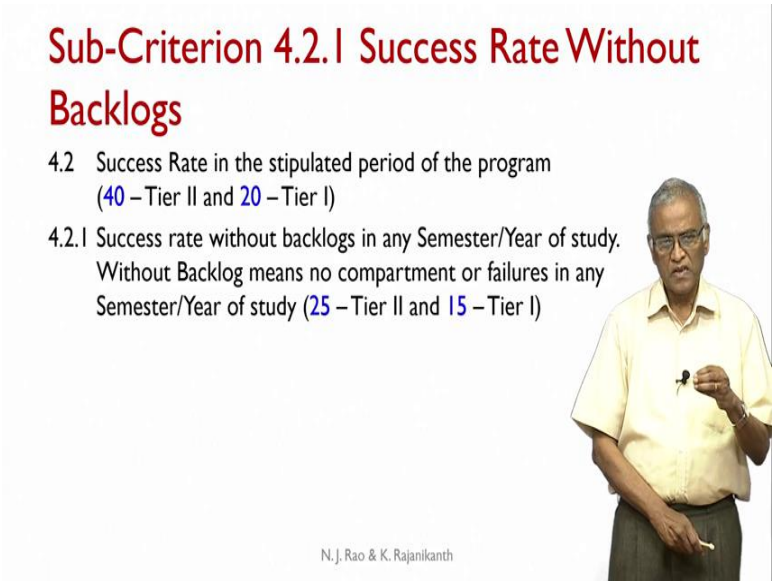

The sub criterion 4.2 is related to success rate in the stipulated period of the program. And here, there are two sub sub criteria I can say 4.2.1 and 4.2.2. So, the marks awarded for tier 2 institution for 4.2 is 40 and for tier 2 institution it is 20. So, what does the 4.2.1 say? Success rate without backlog in any semester or year of study without backlog means no compartment or failures in any semester year of study.

That means, first time a person passes in all the semesters fully without any failure whatsoever, that is what we consider success rate without backlog and these are 25 marks for tier 2 and 15 marks for tier 1.

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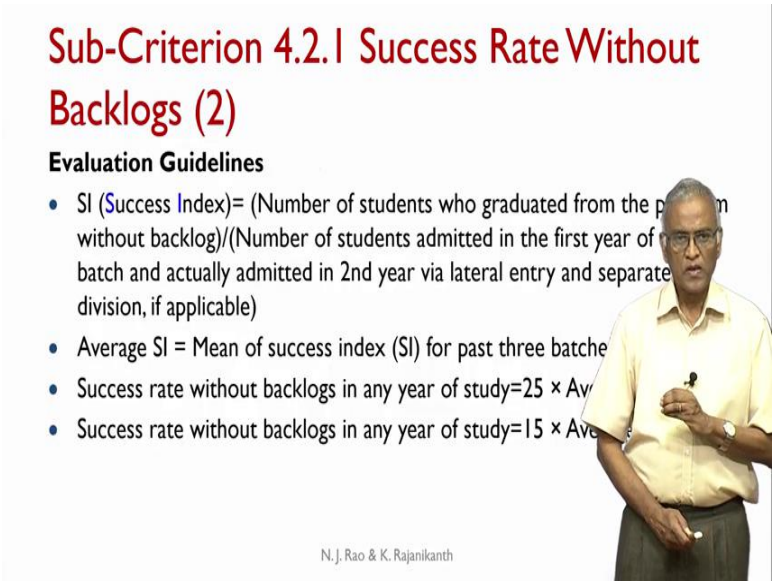

So, how is it computed? You call it SI success index is equal to the number of students the number of students, number of students who graduated from the program without backlog. First come compute for a entire batch you compute the number of students who graduated from the program without backlog divided by number of students admitted in the first year of the of that batch, and actually admitted in second year via lateral entry and separate division if there is any.

So you compute the total number of students as given here. And the ratio of these two number of successful students and number of students admitted, if you take that that is success index. So, average SI means you take the mean of success index for the past three batches. So here success rate without backlog in any year of study means you 25 multiplied by average SI, that is for tier 2 and 15 multiplied by average SI is for tier 1. So, that is the way the number of marks computed for success rate without backlog.

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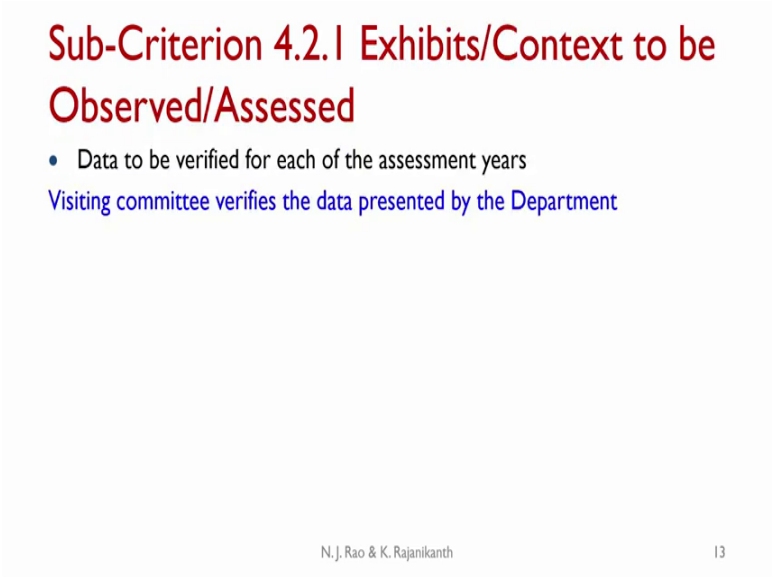

Now, again once again data to be verified for each of the assessment years and visiting committee verifies the data present by the department, they will just look at the records. And if they are okay the marks are automatically awarded, that means the college itself or the department itself can compute all this data and practically give itself the marks that they get.

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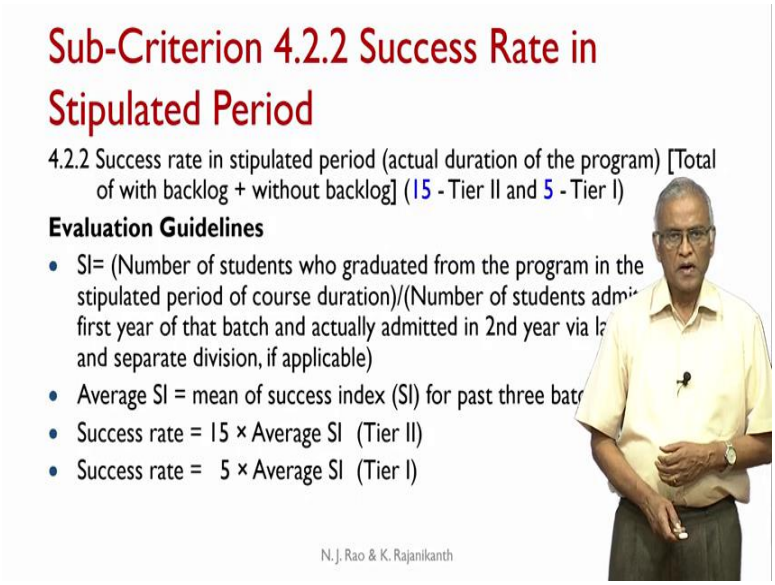

Now, there is another part of the success rate, the success rate in stipulated period that is actual duration of the program. It is a four year program, though in four years that is without taking any

extra time beyond four years, if somebody has passed without backlog or with backlog, that is, somebody might have failed one or two subjects in the earlier semesters, but he is able to take care of that in the following years, but he has completed the program in the stipulated period of four years.

So this success rate is 15 marks for tier 2 and 5 marks for tier 1. So, how do you compute this? The success index, as we call it, number of students who graduated from one from the program in the stipulated period of course duration, and the number of students admitted the way we have defined earlier.

And you take the average success index, mean of success index for the past three batches, and you compute success rate as 15 into average SI for tier 2, and 5 into average SI for tier 1. So, this is how you compute the success index in the stipulated period. So, these two are different 4.2.1 and 4.2.2 are different.

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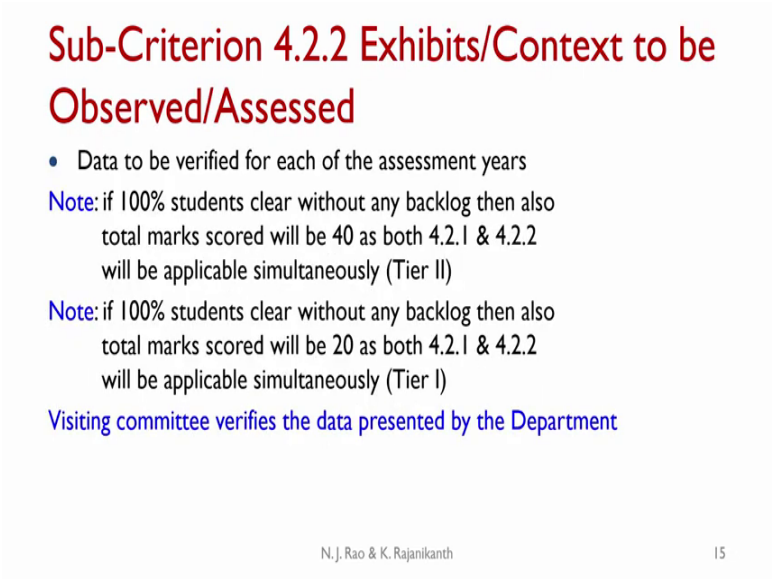

And here, sometimes, which is very rare actually, if somebody if both the number that you get 4.2.1 and 4.2.2 are the same, that means all students have passed without any backlog, even if it is so, the number of marks that you would get will be 40 for tier 2 institution and number of marks will be 20 for tier 1 institution, whether you combine it together or show it as a single index does not matter, which is very rare really speaking, it is very difficult to have an a institute

100 percent of the students passing without any backlog at any point. And visiting committee will verify the data presented by the department and award marks.

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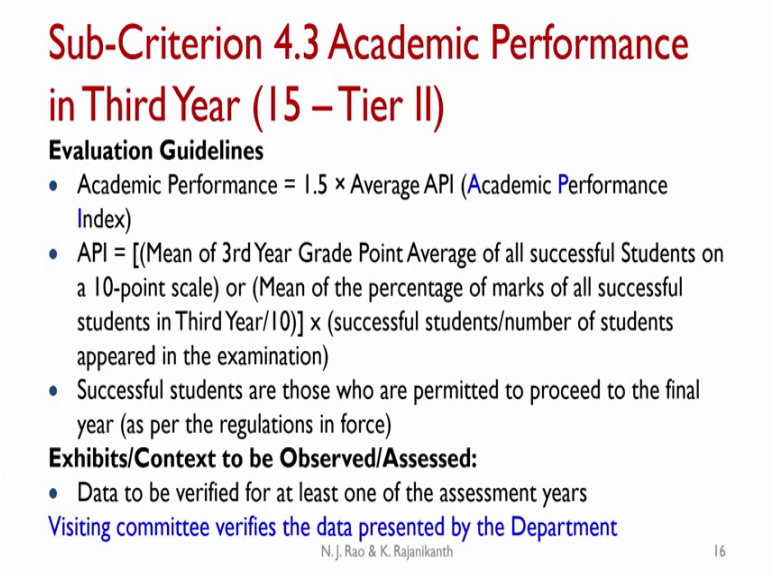

Now, coming to sub criterion 4.3 it is the academic performance in third year. This is only valid for a tier 2 institution. And what is the evaluation guideline? Academic performance is equal to 1.5 multiplied by average API average academic performance index. How do we compute to the API? It is the mean of third year grade point average of all successful students on a 10 point scale.

If somebody is giving a kind of a grading system as per the current UGC norms on a 10 point scale, you compute the average grade point average in that year, in third year or if people are still giving marks mean of the percentage of marks of all successful students in third year divided by 10, you will get similar numbers multiplied by successful students divided by number of students appeared in the examination.

Now who are successful students? Successful students are those who are permitted to proceed to the final year as per the regulations enforce, these regulations may change from one institute to the other, but whatever regulations are enforce, if they are permitted to go to the third into the final year, they are considered successful students. If somebody is not permitted under the existing rules, then they will not be considered successful students.

So, what are the exhibit that you will see? The computation that you made, either that is mean of the third year grade point average, multiplied by the treasure of successful students is the API and that you multiply it by 1.5. Whereas, in the case of tier 1 institution unfortunately, equivalent of this third year performance does not exist.

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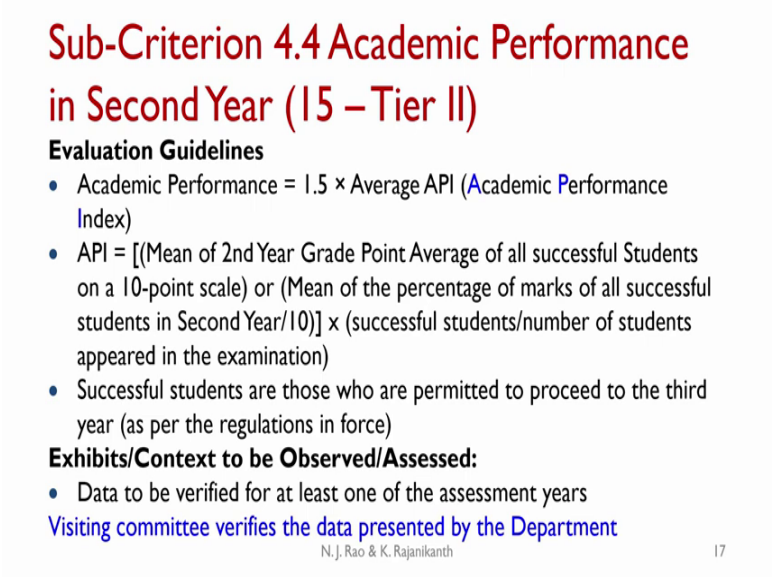

So we move on to 4.4 academic performance in second year. So it is very similar to the third year one, that is academic performance equal to 1.5 into average API, it is computed in the same way, except that the successful students are those who are permitted to proceed to the third year as per the existing regulations. And you multiply that by 1.5 and that gives you the academic performance in the second year. So, again the data will be verified by the visiting committee for at least one of the assessment years and based on that the marks will be awarded.

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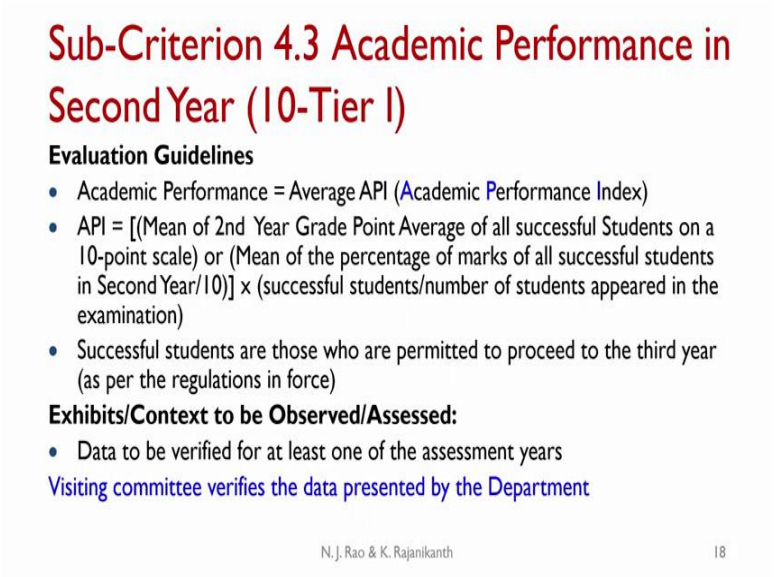

Whereas, it is slightly different for the tier 1 institution because you have only 10 marks for this. So, academic performance, you are not multiplying it by 1.5 you are directly taking average API, that is mean of second year grade point average of all successful students on a 10 point scale multiplied by the ratio of successful students to the number of students appeared in the examination.

See there is a difference between the actual number of students in the second year and the number of students appeared in the examination. The number of students appeared in the exam maybe less than that the actual number because of either they are absent for some health reasons or some number of students do not have the required attendance in that case they would not be permitted.

So, what we are interested in the number of students actually appeared in the examination is imparted. And once again visiting committee will verify data for at least one of the assessment years and award marks for that.

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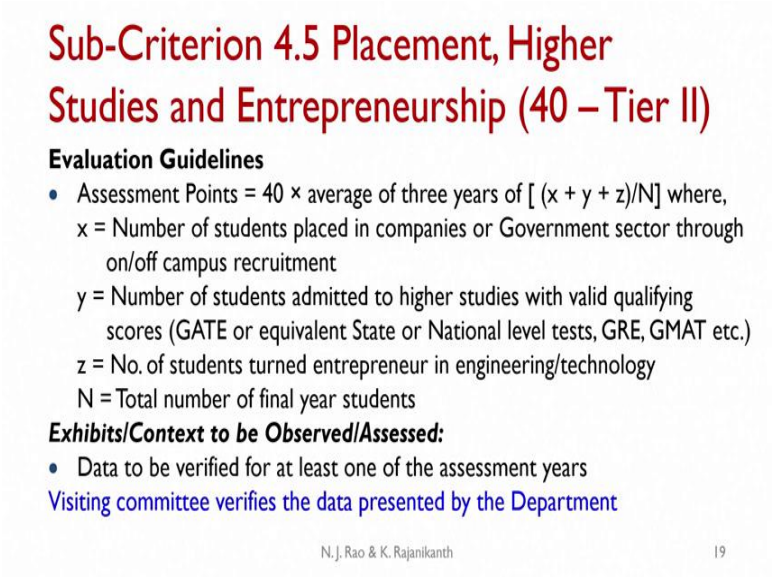

Now come the 4.5, sub criterion, placement, higher studies and entrepreneurship. All students who are graduating from the program will generally fall under one of these three categories generally. So, you compute all that assessment points that is 40 into average of 3 years of x plus y plus z by n, where n is the total number of final year students, we are not talking about the first year students admitted.

But the total number of final year students and x the number of students placed in the companies or government sector through on our off campus recruitment, because in many tier 2 colleges there may not be much of campus recruitment or even in other institutions where there is campus recruitment all students do not get recruited in the through campus.

Some of them will explore on their own and in give interviews outside the campus and also get what you called placement. So, their department has to collect information about both on or off campus recruitments details and that is a feedback. Yes, all students may not properly report but the department should make an effort to get this particular piece of information.

Why is the number of students admitted to higher studies with valid qualifying scores? Once again this is to be noted. The qualifying score is in the GATE or equivalent state or national tests, GRE, GMAT, etc. Some people can get into postgraduate studies without going through any of

these qualifying scores, they are not counted. We are only counting the number of students who have gone into higher studies based on valid qualifying scores.

And z is the number of students turn entrepreneur in engineering or technology, not any family business type of entrepreneurs, somewhere even if it is family, family activity, it should be in engineering or technology. So, z is the number of students, student entrepreneurs. So, x plus y plus z divided by n into 40. And that you take average over three years and that is the, these particular 4.5 index and the data to be verified for at least one of the assessment years by the visiting committee before they award the marks.

This actually if the department puts in the right kind of effort, they themselves can compute. So, how do you convince the visiting committee? You have to, you have to have proof of against all these three these three x, y, z.

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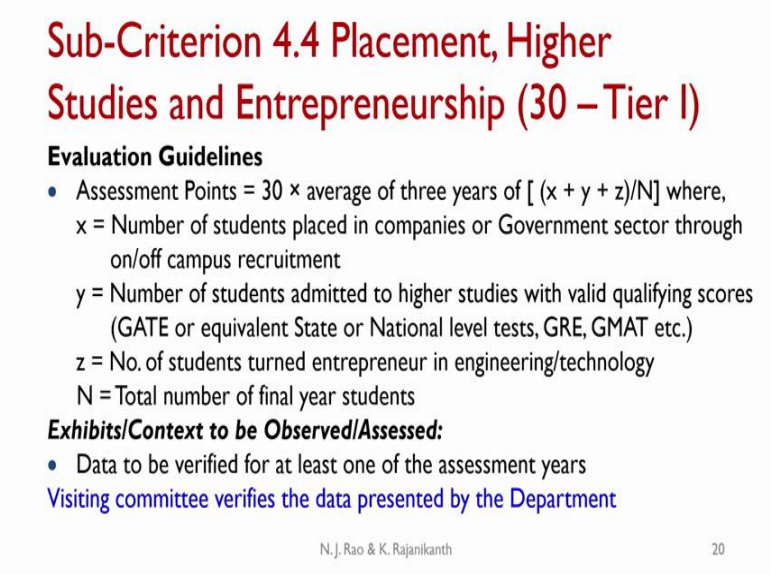

Let us see what kind of proof you are looking for. In the case of tier 1 institution, you are only talking of 30 marks instead of 14 the other one, but otherwise, the competition is the same average over three years of x plus y plus z by n.

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Now, proof of placement is not in terms of offer letters, because many companies do offer to give through campus recruitment give offer letters, but actually they do not employ them. So evidence of students joining the organization must be available with the institute. So either as joining report, or some proof that student has to produce that is actually joined an organization and the department should make effort to get that kind of proof.

And the department should have evidence of students joining the higher education programs and keep copies of the GATE or GRE score. If somebody says that I got admitted to such and such masters program. Then along with that you must have the GATE or corresponding GRE scores, proof of that with the department.

And similarly, the department should have also evidence of students becoming entrepreneurs. How do you have either some visiting cards of course, somebody can just print a visiting card for the sake of this, but I do not think for one visiting card any student will do that. But visiting cards are communication from the companies letterhead need to be obtained from the individual to show the proof of somebody becoming an entrepreneur.

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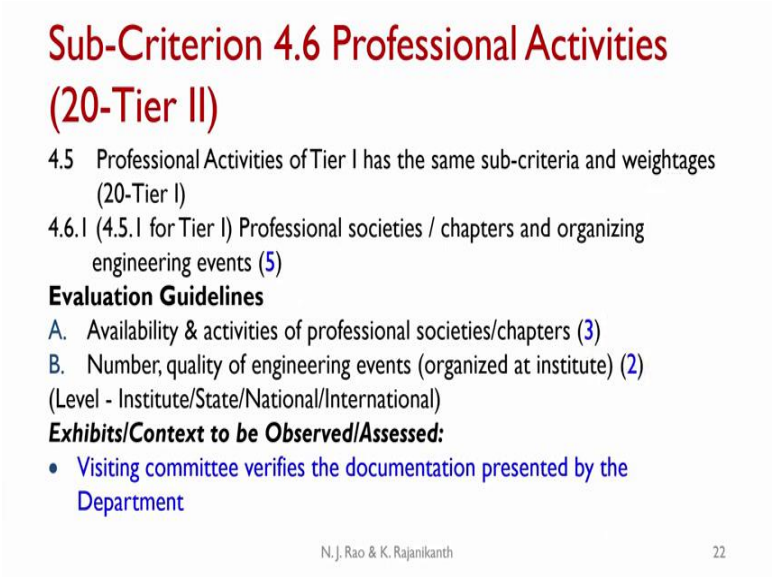

Now come to the sub criterion 4.6 that is professional activity. It is 20 marks for tier 2 and also 20 marks for tier 1, except that that will be labelled as 4.5. The evaluation guidelines include availability and activities of professional act societies and chapters three, number of quality of engineering events organized at institute, either institute level, state level national or international level 2, these are the 3 marks for that and 2 marks for this.

And department can actually keep a record of a, can have all the documentation prepared for this there should not be any difficulty, but a file should be maintained for both year and be separately.

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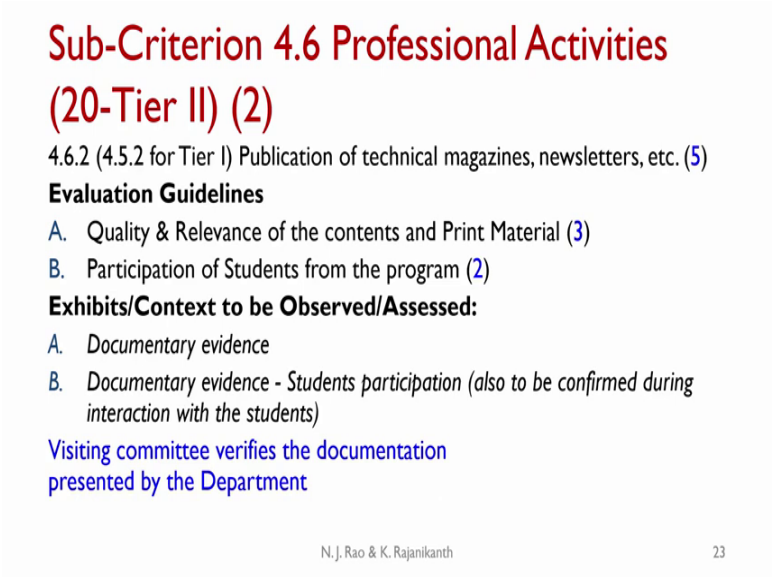

And 4.6.2 publication of technical magazines and newsletters that is 5 marks and evaluation guidelines, quality and relevance of the content and print material that is publication of technical magazines or newsletters are participation of students from the program 2 marks for that, once again, you have to have documentary evidence for this, which should not be difficult to produce before the visiting committee.

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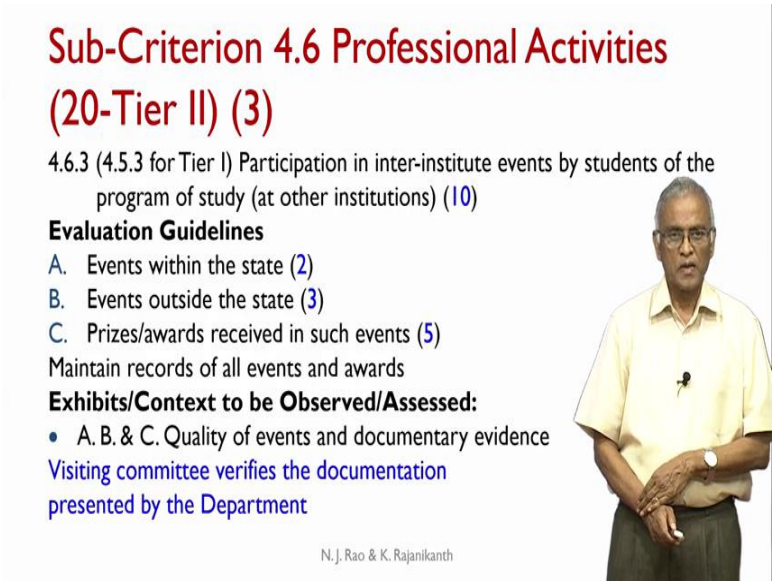

And 4.6.3 is related to participation in institute events by students of the program of study at other institutions, not in your own institution which is covered in the earlier one at other institution and that that carries 10 marks for this, which becomes 4.5.3 for tier 1. And here even in this events within state 2 marks, events outside the state 3 marks. And any prizes awards received in such events 5 marks, as you can see, by the number of marks that are given to this, the NBA considers that the students get greatly benefited by participating in such in inter institution events.

So, the documentary evidence for all these three should be collected and put together and to be presented to the committee. We have noted sometimes, while these events actually take place, have taken place, possibly some students got some awards, but the department or the institute may fail to show the exhibit. So, you will unnecessarily lose the marks for this kind of thing. So, please take care ensure that your department keeps track of all this and maintains files on this, these days everything can also be done electronically.

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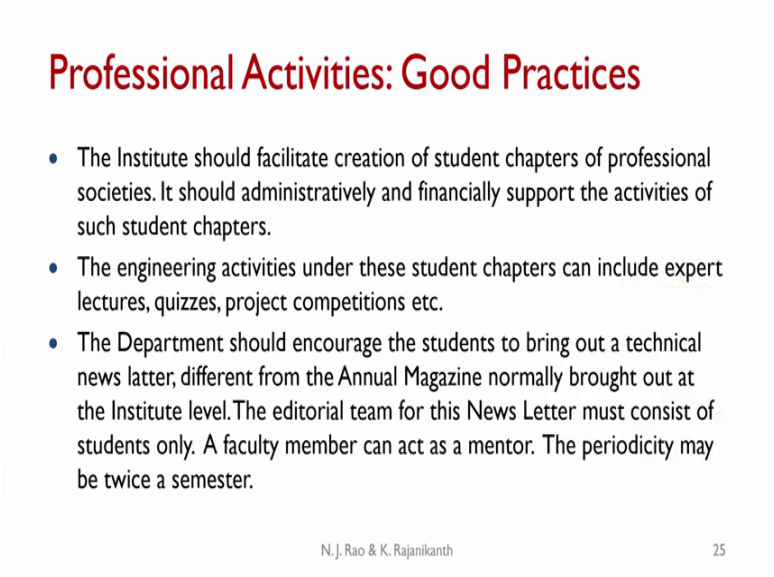

Now, let us look at all these professional activities. So, what are the good practices, the institute should facilitate creation of student chapters of professional societies and the department or the institute should administratively and financially support the activities of such student chapters.

It could be IITE or it could be IEEE chapter, or ASME, whatever you call that, the local chapter can be created by the department by the institute as well. And so the Institute and the department should take extra initiative to administratively support creation of such chapters. The what are the type of activities you can have under these? They can include expert lectures, quizzes, project competitions and depending on the imagination of this group of students and the department, you can have a variety of professional activities organized under the student chapter.

If a particular student chapter is performing very well, the professional society itself may recognize that and provide some additional support for conducting these activities. And the department should also encourage the students to bring out a technical newsletter different from the annual magazine normally brought out at the institute level.

These two are completely different ones and technical newsletter should be designed and created and made available with the effort of the students. To that extent the editorial team of the newsletter must consist of students only. A faculty member can act as a mentor and it should it should not be just once a rare item kind of thing.

At least periodicity at least should be twice a semester. It need not be very big newsletter, you can have 4 pages 6 pages on it need not be even printed. It could be electronic form and made available but something is available on the website for both all the stakeholders to take a look at.

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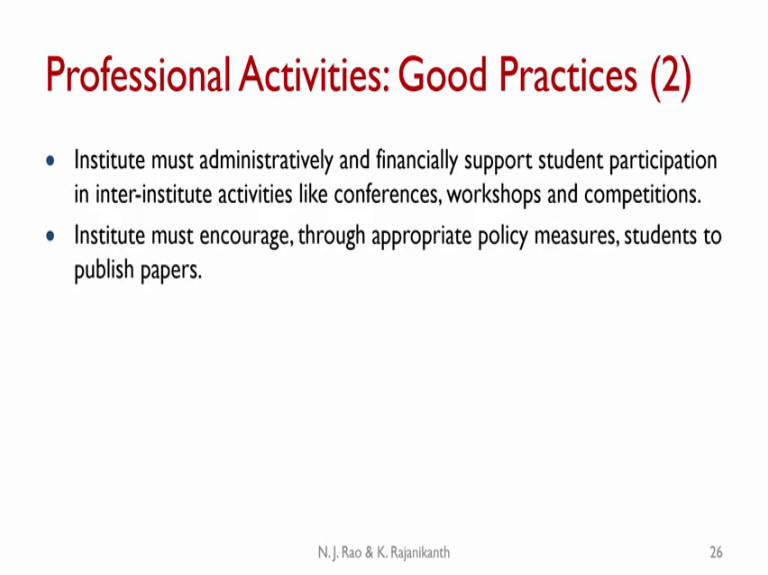

Institute must administratively and financially support student participation in inter institute activities like conferences, workshops and competitions and institute also must encourage through appropriate policy measures students to publish papers, if there is some small expenses involved in publishing a paper the institute should encourage that because these actually add a lot of value to the both the learning of the student and also it will help in placement and not only that strictly from NBA, you can score more marks.

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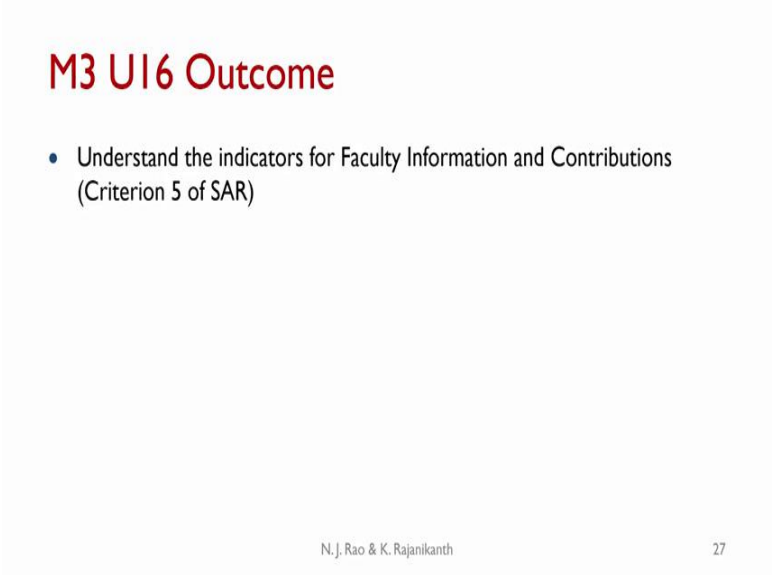

And in the next unit 16, we will look at or we try to understand the indicators for faculty information contributions, as per criterion 5 of SAR. Thank you very much.