Minutes of the First Meeting of the Academic Council of Usha Martin University

The first meeting of the Academic Council of Usha Martin University was held on 19.4.2017 at 4.30pm in the conference room of hotel Le Lac, Ranchi. The following members were present:

1. Prof. S. C. Garg, Vice Chancellor, UMU – Chair
2. Prof. L. N. Bhagat, Former Vice Chancellor, Ranchi University, Member
3. Prof. Vandana Bhattacharjee, BIT Mesra, Ranchi, Member
4. Prof. Swarat Choudhury, St. Xavier College, Ranchi, Member
5. Prof. S. K. Tripathi, Ranchi University, Special Invitee
6. Dr K. T. Lucas, Director, XIPT, Special Invitee
7. Dr. Vinay Singh, Officer Incharge, UMU

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf. He said that he was highly grateful to all for agreeing to associate with UMU and give the benefit of their expertise in the formative period of the University. He was of the view that the University was singularly fortunate to have them on its Academic Council and with their guidance as well as support, UMU should realize its vision to make education relevant for all, create excellence in teaching as well research using innovative strategies for seamless dissemination and creation of knowledge for the good of the youth of the state. Prof. Garg informed members that the University management would like to offer only those programmes which would have approval of the national statutory bodies, while also conforming to the norms of the Higher Education Department of the Government of Jharkhand. In this process, UMU would like to create niche for itself in higher education map of the state.

Thereafter, the Council took the agenda items for its consideration

**Agenda Item AC.1.1: To consider and approve the programmes to be offered initially**

The Council was informed that to begin with, the University would like to offer BBA, MBA, BCA, MCA, BA (Hons.) Economics, MA (Economics), Bachelor in physiotherapy, BCom (Hons.), Diploma in Medical Laboratory Techniques and Diploma (civil and Computers) programmes. The syllabi for these programmes were also placed for consideration and approval of the Council.
The Council took the agenda item for its consideration and deliberated on the nature of offerings proposed. After detailed deliberations, it was decided that as far as possible, the University should

- Adopt UGC nomenclature for programmes so that acceptability of the degree awarded by the University by other higher education institutions as well as employer groups is not an issue;
- refrain from offering six month certificate courses;
- conform to Choice Based Credit System proposed by the UGC and wherever available, adopt UGC Syllabi with changes, if necessary, as prescribed to accommodate local context and perspective;
- instead of BCA, use the nomenclature BSc (Hons) Computer Applications and BSc (Hons) Information Technology;
- BA (Hons) English should also be offered.
- offer Diploma in Mechanical and mining, in addition to Civil, rather than computers for employability in the job market; and
- to begin with, MCA and MA (Economics) may not be put on offer.
- The Council also decided that in coming years, programmes such as Retail management, BLib, MLib, and PhD in different subjects may be put on offer to diversify offerings and raise the profile of the University.
- The University should appoint regular faculty as far as possible. And preference should be given to PhD holders because they will be helpful in enhancing research profile of the University in due course of time. However, the provision of adjunct faculty for senior professors be kept open to promote quality research.

The meeting ended with vote of thanks to the Chair.

This is issued with the approval of the Chair

(Vinay Singh)
Officer Incharge
Minutes of the Second Meeting of the Academic Council of Usha Martin University held on 20.6.2017

The second meeting of the Academic Council of Usha Martin University was held on 20.6.2017 at 5.30pm in the conference room of hotel Le Lac, Ranchi. The following members were present:

1. Prof. S. C. Garg, Vice Chancellor, UMU – Chair
2. Prof. L. N. Bhagat, Former Vice Chancellor, Ranchi University, Member
3. Prof. Vandana Bhattacharjee, BIT Mesra, Ranchi, Member
4. Prof. Swarat Choudhury, St. Xavier College, Ranchi, Member
5. Prof. Madhulika Kaushik, Special Invitee
6. Dr Viplaw K. Pandey, Registrar, Member Secretary

AC.2.1 Chairman’s comments and welcome

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf. Thereafter, he introduced Prof. Madhulika Kaushik, PVC, UMU and Dr Viplaw K. Pandey, Registrar, UMU who joined the University in May, 2017.

He informed the Council that the 2017-18 academic session of the University has been scheduled to begin from August and currently, the process of registration for the eight programmes approved by the Academic Council at the Diploma, Bachelors and masters levels was on. The university intends to propose a few more programmes for the consideration and approval of the AC in this meeting. Thereafter, the Council took the agenda items for its consideration.

AC.2.2 To confirm the minutes of the first meeting of the Academic Council

AC 2.2.1 The Registrar informed the Council that the minutes of the first meeting of the Academic Council had been circulated to all members much in advance. He informed that no comments on the minutes or suggestions for amendments had been received so far from the members. He again invited members to comment in case they had any corrections or
amendments to suggest. There being no amendments, the minutes as placed at Appendix 1 were approved by the members as such.

AC 2.2.2 The Chairman proposed that in future, if no comments were received within a fortnight of the circulation of minutes, these would be deemed to have been confirmed. The Council approved the proposal.

AC.2.3 To consider and approve the Academic Calendar for the Year 2017-18

AC 2.3.1 The Registrar placed before the AC, the Academic Calendar of the University for Year 2017-18, proposing two semesters each comprising 17 weeks and a mid semester break of one week for its consideration and approval. The Academic Calendar also proposed the schedule of the mid semester examination and the continuous as well as term end evaluation of the University. The suggestions of the members of the BOM, held earlier the same day, were also shared by the Chairman.

AC 2.3.2 Presenting the item, the Registrar highlighted that

- Each semester calendar is for 17 weeks.
- The first semester begins on 7th August and classes will finally disperse on 7th December.
- Provision of one week mid semester break from 1st Oct. to 7th Oct. and one week preparatory leave after dispersal of classes on 8th December has been made.
- The semester exams shall be conducted from 18th December to 24th December, 2017.
- The University proposes to conduct centralized evaluation so that results can be declared by 4th January 2018.
- The second semester begins on 8th January, 2018 and classes will finally disperse on 4th May, 2018.
- As in first semester, provision of one week mid semester break from 4th March to 11th March and one week preparatory leave after dispersal of classes on 4th May, 2018 has been made.
- The semester exams shall be conducted from 14th May to 26th May, 2018 and semester results shall be declared by 20th June.
**AC 2.3.3** During their deliberations, members commended the details presented in the calendar. The issue of actual dates of the vacations was raised and it was decided that each year the schedule of the vacation will be declared by executive order at the beginning of the year.

Subject to these observations, the Academic Council approved the Academic Calendar for the Year 2017-18.

**AC 2.4** To consider and approve offer of PhD programme by the University

**AC 2.4.1** The Academic Council in its first meeting had advised that new programmes may be added in future depending on the need in the region. Ever since the University advertised its academic offerings, there have been several queries about the offer of PhD programme by the University. The proposal that the University may initiate steps for offer of research degree programme to cater to its second dimension of creating new knowledge was placed before the council.

**AC 2.4.2** While deliberating upon the item, the Council underlined the need for following strictly the UGC guidelines in force at the time, particularly in respect of

- Entrance examination;
- Number of students to be admitted;
- Qualifications and eligibility of Research supervisors;
- Course work requirement, which may be exempted for those coming in with MPhil degree;
- Availability of full time faculty in the discipline areas of research; and
- Existing offer of PG programmes by the University in the discipline area of research.

Subject to these stipulations, the AC approved the proposal of offer of PhD programme by the University.

**AC 2.5** To deliberate on prospective academic programmes by the University
AC 2.5.1  The Academic Council in its first meeting had decided that in future, programmes in different subjects may be put on offer to diversify offerings and raise the profile of the University. Placing the item for the consideration of the Council, the Registrar informed the members that several inquiries have been received for programmes such as Diploma in Mechanical and Diploma in Computers, BSc (MLT), MLib, BLib and MCA. Moreover, it is felt that to have a competitive product profile in the region Integrated Programmes such as BBA/BA LLB, BBA-MBA, BSc/MSC-IT may be offered in due course of time.

AC 2.5.2  The Council deliberated at length on the proposal and suggested that
- All proposed programmes may be initiated only after qualified faculty as per UGC stipulations has been appointed on a full time basis;
- In respect of programmes like MCA a placement cell be specifically put in place to ensure that the graduates are suitably placed;
- The programmes should be offered only if adequate registrations exist to ensure economic sustainability of the same; and
- For integrated law programmes, prior approval of the Bar Council may be obtained.

AC 2.5.3  The Chairman informed members that MHRD, GoI is considering permitting universities to offer online programmes to use technology to increase access and reach the last mile. Therefore, as a pro-active institution, UMU would like to prepare with all necessary wherewithal and offer online programmes due overcome the disadvantage of distance.

AC 2.5.4  The Academic Council welcomed this idea but advised that online programmes be offered in subjects that are being offered at Masters level in F2F situation. Subject to these stipulations, the Academic Council approved the offer of the above programmes by the University.

AC 2.6   Any other matter with the permission of the Chair

AC 2.6.1  Dr Pandey informed the Board that the University proposes to offer Merit Scholarship Scheme wherein graded Tuition fee based scholarships will be granted to students as per following details:

1. 30% for all students enrolled in any course and having more than 80% marks in their qualifying examination.
2. 20% for all students enrolled in any course and having marks in the range 70-80% in their qualifying examination.
3. 20% for girl students enrolled in any course and having marks more than 60% in their qualifying examination.
4. 10% for students having domicile of Jharkhand and enrolled in any programme.

Members were also informed that the BOM held earlier that day had accepted the proposal with the amendment that fee waiver for girl students should be 30% for those enrolled in any course and having marks in the range 60-70% in their qualifying examination. Moreover, it was suggested that the University should be open to additional fee waiver in case of very deserving candidates.

**AC 2.6.2**

The members appreciated the initiative of a merit based scholarship specially in view of the socio-economic status of students in the region and the need to support local merit as well as women aspirants.

The item was approved along with the amendments suggested by the Board

With no other items for discussion, the meeting concluded with a vote of thanks to the Chair.

(Dr Viplaw Pandey)

Registrar and Member Secretary
Minutes of the Third Meeting of the Academic Council of Usha Martin University held on 8.9 2017

The third meeting of the Academic Council of Usha Martin University was held on 8. 9. 2017 at 5.30pm in the conference room of hotel Le Lac, Ranchi. The following members were present:

1. Prof. S. C. Garg, Vice Chancellor, UMU – Chair
2. Prof. L. N. Bhagat, Former Vice Chancellor, Ranchi University, Member
3. Prof. Vandana Bhattacharjee, BIT Mesra, Ranchi, Member
4. Prof. Swarat Choudhury, St. Xavier College, Ranchi, Member
5. Prof. Madhulika Kaushik, PVC, UMU
6. Sh. Sant Sinha, UMU
7. Dr Puja Mishra, UMU
8. Dr Sharmista Roy, UMU
9. Dr Viplaw K. Pandey, Registrar, Member Secretary

AC.3.1 Chairman’s comments and welcome

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf. Thereafter, he introduced Sh.Sant Sinha, Dr Puja Mishra and Dr Sharmista Roy of UMU as new members nominated on the AC who joined the University in July and August, 2017, respectively.

He informed the Council that the 2017-18 academic session of the University began as per schedule on 8th August with the offer of MBA, BBA, MCA, BCA and Diploma Programmes in Mechanical, mining, CS, civil and Electrical approved by the Academic Council. The university intends to propose a few more programmes for the consideration and approval of the AC in this meeting. Thereafter, the Council took the agenda items for its consideration

AC.3.2 To confirm the minutes of the second meeting of the Academic Council and Action Taken Report

AC 3.2.1 The Registrar informed the Council that the minutes of the second meeting of the Academic Council held on 20.6.17 had been circulated to all members and no comments or
amendments had been received from the members within a fortnight. He proposed that the minutes may be approved as circulated and placed at Appendix 1.

**AC 3.2.2** The Registrar further informed the members that action has been taken on various decisions of the previous meeting of AC:

1. The academic calendar approved by the AC was circulated to all students and faculty members during the orientation programme held on 8.8.17. It has also been put on the University Website. It is being followed in letter and spirit.
2. To offer PhD programme, an ordinance has been formulated for approval of the Council. The Council approved the Action taken Report.

**AC 3.3 **Matters arising out of the minutes

In its last meeting BOM decided that girl students enrolling in any course and having marks more than 60% in their qualifying examination shall be granted 30% scholarship. AC had endorsed the decision. However, one member pointed out that to be fair to all, the percentage of marks for girl students should be raised to 70%. Moreover, if possible, the University should conduct Merit Scholarship examination from next year. Subject to these suggestions, minutes of the second meeting were approved by the AC.

**AC 3.4 **To consider and approve policy for conduct of Examinations and grading system

**AC 3.4.1** The Registrar informed the members that the University has to conduct examinations and grade its learners for assignments, mid-term test and term-end examinations. Therefore it is necessary to consider and approve the rules for the same.

**AC 3.4.2** The Registrar then highlighted that the University proposes to use a judicious combination of continuous evaluation through assignments and mid-term tests and term-end examinations with following weightage:

- Assignments: Two, each with 10% weightage
- Mid-term Test: One, weightage 25%
- Attendance: 5% (depending on the % of attendance as per UGC guidelines)
AC 3.4.3 While considering the proposal, AC advised that weightage of the continuous assessment and term end examination should be 40:60. For all theory papers the weightage of assignment, mid-term test and class attendance should be 10%, and 25%, and 5%, respectively. The attendance marks may be assigned as per UGC guidelines. For papers with practical component, the term end theory component weightage be retained as 60% and the continuous assessment will comprise one assignment (10%) and class attendance (5%). However, for practicals, 15% marks may be assigned for assessment of everyday work done in the lab and 10% marks may be assigned for the term end practical exam.

AC 3.4.4 The Academic Council also decided that the proposed exam policy may be termed as Regulations for Conduct of Examinations. The AC further decided that the University should refrain from holding supplementary examinations except in the case of graduating students and that too for back-papers of the 5th and 6th semesters only. Students failing a paper will be promoted to the next semester and will take the re-sit exam the next time the paper is offered by the University. Promotion to the succeeding semester in the first year would be given to all appearing in the examination, irrespective of the number of credits earned. However, from second year onwards, promotion to successive semesters will be contingent upon the student successfully clearing 50% of the credits offered in a given semester.

There should be Moderation Board for each paper and it should be chaired by the HoD or the Senior most Teacher with at least two other members, one of whom may preferably be an outsider. With these observations, the AC approved the proposal. The approved document is placed at Annexure 2.

AC.3.5 to consider and approve Research Guidelines for offer of M.Phil / PhD Programmes

AC 3.5.1 The Registrar informed the members that in its previous meeting, Academic council had approved launch of PhD programme subject to strict adherence to UGC guidelines to cater to its second dimension of creating new knowledge. To this end, M. Phil / PhD guidelines have now been developed and the University proposes to announce offer of these programmes in Management, Computer Science, Mathematics, Economics, Commerce and Physics. He further informed that last date of receipt of applications shall be 18th September,
2017 and entrance test will be conducted in Ranchi and Delhi NCR on 24th September, 2017.

AC 3.5.2 The Registrar also informed the members that as per UMU Act, a Research Council (RC) should oversee the research activities of the University. But due to inadvertent omission, we missed it thus far and now we are in the process of constituting the RC. However, since AC is the supreme academic authority of the University, it is competent to approve the proposal subject to ratification by the RC. The proposal is placed for its consideration and approval.

AC 3.5.3 While considering the proposal, the members advised that RC be constituted immediately to conform to the stipulations of the University Act and the points raised in the last meeting be adhered to while offering the programme. Thereafter, the Academic Council considered the proposal and approved it after detailed deliberations. The approved guidelines along with programme fee are placed at Annexure 3.

AC.3.6 To consider and approve offer of BEd (Special Education), MA (Education) and LLB programmes

AC 3.6.1 The Academic Council in its previous meeting had decided that to improve the profile of the University and impart quality education in the state, integrated programmes like BA-LLB and BBA-LLB may be put on offer to diversify offerings. Placing the item for the consideration of the Council, the Registrar informed the members that several inquiries have been received for programmes such as BEd (Special Education), MA(Education) and LLB.

AC 3.6.2 The Registrar also informed the Council that their suggestions in the last meeting in respect of new programme launches availability of qualified faculty, number of prospective students students and approvals of relevant bodies would be ensured before finalizing the decision to launch the programmes carefully. Thereafter, the Council deliberated on the proposal at length and approved it while reiterating the approvals of statutory national bodies must be obtained before launch of BEd (Special Education) and LLB to avoid inconvenience to the graduates of the University.

AC.3.7 Any other matter with the permission of Chair

AC 3.7.1 The registrar informed the council that looking at the requirements of students and faculty to be with their families during the local festival season, a minor readjustment in the academic
calendar is needed and can be managed by preponing the semester break from the 2\textsuperscript{nd} - 7\textsuperscript{th} October to 25\textsuperscript{th} September to 30\textsuperscript{th} September. The no. of academic days will remain unchanged. One member opined that such an internal adjustment could be done by the University administration. Thereafter, the proposal was approved by the AC.

Dr Viplaw Pandey
Registrar and Member Secretary
Minutes of the Fourth Meeting of the Academic Council of Usha Martin University held on 27.3. 2018

The fourth meeting of the Academic Council of Usha Martin University was held on 27.3. 2018 at 2.30pm in the University Campus. The following members were present:

1. Prof. S. C. Garg, Vice Chancellor, UMU – Chair
2. Prof. Vandana Bhattacharjee, BIT Mesra, Ranchi, Member
3. Prof. Swarat Choudhury, St. Xavier College, Ranchi, Member
4. Prof. Madhulika Kaushik, PVC, UMU
5. Sh. Sant Sinha, UMU
6. Dr Puja Mishra, AP., UMU
7. Dr Sharmista Roy, A.P., UMU
8. Dr Vinay Kumar Singh, COE (In charge & OSD), Special Invitee
9. Dr Viplaw K. Pandey, Registrar, Member Secretary

Prof. L. N. Bhagat, Former Vice Chancellor, Ranchi University could not attend the meeting due to indisposition.

AC.4.1 Chairman’s comments and welcome

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf.

Thereafter, he informed the Council that

(i) Since the time we met in the last meeting of AC, Ms Anupma Verma, Ms Jayantika Pal and Sh, Vinay Singh have been awarded PhD degree by their respective institutions in Management, mathematics and Computer Science. He congratulated them for their success.

(ii) The examinations for the first semester were held as per guidelines approved by the AC for the 2017-18 academic session of the University. However, we are in the process of constitution of moderation boards. The second semester began as per
schedule on 8th January, 2018. The University intends to propose a few more programmes for the consideration and approval of the AC in this meeting.

(iii) The University launched its PhD programme as per guidelines approved by the AC earlier and as of now eight scholars have been enrolled: Commerce 3; Computer Science 4; Management 1

**AC.4.1.1** A member suggested that the University should (i) use external paper setters, and (ii) engage an external observer during the final semester examinations to begin with. This is one of the points that visiting UGC/NAAC teams normally enquire.

Thereafter, the Vice Chancellor requested the PVC and the Registrar to present the agenda items. The Registrar requested the PVC to do the needful. The Council then took the agenda items for its consideration.

**AC.4.2 To consider and approve minutes of the Third meeting of AC and matters arising out of minutes**

**AC 4.2.1** Prof. Madhulika Kaushik, PVC informed the Council that the minutes of the third meeting of the Academic Council held on 8.9.17 were circulated by the Registrar on 11.9.17 to all members and no comments were received or amendments proposed by any member within a fortnight. Therefore, the minutes may be deemed to have been confirmed as circulated. These are placed at Appendix 1.

She then invited members to raise any matter arising out of the minutes for the betterment of the University and its stakeholders.

**AC 4.2.2** The Council approved the minutes as circulated

**AC.4.3 Action Taken Report**

The AC perused the action taken and expressed satisfaction on compliance of its decisions.

**AC.4.4 To note the minutes of the Research Council**

**AC.4.4.1** The PVC informed the Academic Council that the University conducted its entrance test for the PhD programmes in Commerce, Management and Computer Science and M. Phil in
Physics on 24.9.17 and 19.11.17 2017 in accordance with its approved research guidelines. The candidates qualifying the admission test conducted by the University or having cleared the NET/SLAT tests were invited for interview discipline-wise on the 1st and 2nd of December 2017. The interviews were conducted with the support of eminent external experts who were invited subject-wise.

AC.4.4.2 The PVC further informed that out of twelve candidates, the expert committees recommended nine candidate for admission to the research degree programmes on the basis of their performances in written and viva voce examinations (Management 2, Commerce 3 and Computer Science 4). Another candidate named Ms Shristi was found eligible from among the candidates who appeared in the admission test at Delhi. They were offered admission in the programmes. However, Ms Neha Kumari has neither attended any class nor submitted her semester fee. The Controller of Examinations has written to her to inform in writing by 24th March whether or not she is interested in joining the PhD programme of UMU. In the mean time, Ms Shiristi also requested that she may be allowed to withdraw. So as of now, only eight candidates are registered in the PhD programme.

AC.4.4.3 Prof. Kaushik informed the Council that UGC guidelines stipulate that every scholar should be assigned at least one research supervisor by the University out of its regular faculty members. The University, in consultation with the candidates, has associated research supervisors (internal and in some cases external co-guides) to five scholars as per following details:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of Candidate</th>
<th>Principal Supervisor</th>
<th>Co-supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Biresh Kumar s/o Sh. Madhav Prashad Singh</td>
<td>Dr Anandrup Roy</td>
<td>Dr Sharmistha Roy, UMU</td>
</tr>
<tr>
<td>2.</td>
<td>Kamaldeep s/o Sh. Kedar Nath Sahu</td>
<td>Dr Sharmistha Roy</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Prakash Kumar s/o Sh. L. N. Singh</td>
<td>Dr Vinay Singh</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Surya Narayan Prashad s/o Lt. Sidhnath Prashad</td>
<td>Dr Vinay Singh</td>
<td>Prof. S. Chaudhari, St Xaviers College, Ranchi</td>
</tr>
<tr>
<td>5.</td>
<td>Shahabuddin Ahmed s/o Sh. Shamshuddin Ahmed</td>
<td>Dr Puja Mishra</td>
<td>Dr Anupma Verma, UMU</td>
</tr>
<tr>
<td>6.</td>
<td>Amita Kashyap d/o Sh. A. N. Kashyap</td>
<td>Dr Viplaw Pandey</td>
<td>Dr Anupma Verma, UMU</td>
</tr>
<tr>
<td>7.</td>
<td>Anupam Abhishek Singh s/o Sh. Atul Anuo Singh</td>
<td>Dr Viplaw Pandey</td>
<td></td>
</tr>
</tbody>
</table>
Other scholars can also suggest the names of external candidates, if they so desire.

He also informed that the Vice Chancellor advised all scholars that they should submit their research proposals in consultation with their research supervisors, preferably by February end.

**AC.4.4.4** The item was taken up for discussion. The Academic Council appreciated the University for strictly adhering to UGC guidelines and advised that it should continue with this practice for quality control and keep away from spurious practices in its offerings. However, as a progressive measure, it should consider offering Research Methodology course either on-line or as a MOOCs course and grant credit exemption for the same. Moreover, running the Research Methodology course as a MOOC for both external and internal students could help generate revenue, if a modest fee is levied for external students.

**AC.4.5** To consider and approve new programmes for launch in 2018

**AC.4.5.1** The PVC informed the Academic Council that in its previous meeting, it had decided that the University should diversify its offerings and advised that need based job oriented programmes in different subjects be added gradually, subject to availability of highly qualified faculty. Further, while according approval to programmes such as B. Ed (Special Education) and LLB, it desired that approval of national statutory bodies be obtained so that our learners are not put to any inconvenience at any later time.

**AC.4.5.2** Prof. Kaushik told the Council that following the directions of the AC, the University applied for approval of B. Ed (Special Education) and LLB programmes to RCI and the Bar Council of India, respectively. However, the approvals are still awaited. In the mean time, it was considered prudent that to keep pace with rapid changes taking place in the field of computer education and technology, the University should offer Diploma programme in Artificial Intelligence and Machine Learning with multiple entry and exit points w. e. f 2018 session. It would be a modular programme with Diploma, Advance Diploma and possibly a
Bachelors Degree as successive modules. The detailed curriculum of the Diploma programme shall be placed in the next meeting of AC.

AC.4.5.3 The Council was further informed that new session of the University would start from August 8, 2018 and students enrolled in MBA programme last year are to be offered specializations from third semester onwards. Being the first time for offering specializations, it is proposed to confine as of now to HR, Marketing and Finance, provided a minimum of five students opt for a particular stream. Every student would be required to take at least three courses in that area as well as undertake his/her final semester project in the same area. We would like to add International Business, Entrepreneurship and small business management and such other specializations in due course.

AC.4.5.4 The Council deliberated on the proposal at length and approved it while reiterating its earlier decision of obtaining approvals of statutory national bodies before launch of BEd (Special Education) and LLB. Moreover, as far as offering specialisations to MBA students is concerned, the Council decided that the proposed condition of minimum of ten students in a specialisation should not be enforced in the initial few years. Further, computer laboratory with adequate no. of PCs and genuine software be made available to offer AI&ML programme. The Council was highly appreciative of the modularity of the programme with provision for multiple entry and exit points. They also commended the University for such Innovative Programmes, which are not being offered by any institution in the region. It was also suggested that the University should consider offering Diploma programmes in areas such as Cyber security, Cyber Analytics and applications of Big Data. The entry qualifications for all Diploma programmes should be 10+2.

AC. 4.6 To consider and approve Academic Calendars for the two semesters of 2018-19

AC.4.6.1 The PVC informed the Council that Academic Calendars has approved academic calendars two semesters of the academic year 2017-18.

AC.4.6.2 Prof Kaushik then informed the council that academic calendars for the Year 2018-19 have been prepared based on the philosophy approved earlier and are placed at Annexure 3 for consideration and approval.

AC.4.6.3 The Council approved the academic calendars as proposed.
AC.4.7 Any other matter with the permission of Chair

AC4.7.1 The PVC, with the permission of the Chair proposed, that to reach out to the underprivileged population in the state and give the benefits of higher education to all, the University may like to explore the possibility of enrolling them as private students.

The second issue raised under this item related to the appointment of adjunct faculty at senior level at UMU. Citing international practice, the PVC proposed that in view of the specialisations at the post graduate level and need for supervisory expertise for the research degree programme, the University would like to appoint adjunct professors/Associate Professors on contractual basis. They would be responsible for certain no. of specialisation courses or supervising specific research students. Their remuneration, in the cadre they are appointed, would be made proportionate to their workload. This would enable the University to get the benefit of senior academics at relatively viable costs.

AC 4.7.2 While deliberating on the first issue, the members suggested that the idea of extending the offerings of the University to private candidates may be considered provided the existing UGC regulations do not prohibit it. The University should therefore formally write to the UGC and obtain clearance before taking this initiative forward.

The Council approved the second proposal and appreciated the efforts of the University to raise its profile.

The meeting ended with vote of thanks to the Chair.

Dr Viplaw Pandey
Registrar and Member Secretary
USHA MARTIN UNIVERSITY

Minutes of the Third Meeting of the Academic Council of Usha Martin University held on 8.9 2017

The third meeting of the Academic Council of Usha Martin University was held on 8. 9. 2017 at 5.30pm in the conference room of hotel Le Lac, Ranchi. The following members were present:

10. Prof. S. C. Garg, Vice Chancellor, UMU – Chair
11. Prof. L. N. Bhagat, Former Vice Chancellor, Ranchi University, Member
12. Prof. Vandana Bhattacharjee, BIT Mesra, Ranchi, Member
13. Prof. Swarat Choudhury, St. Xavier College, Ranchi, Member
14. Prof. Madhulika Kaushik, PVC, UMU
15. Sh. Sant Sinha, UMU
16. Dr Puja Mishra, UMU
17. Dr Sharmista Roy, UMU
18. Dr Viplaw K. Pandey, Registrar, Member Secretary

AC.3.1 Chairman’s comments and welcome

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf. Thereafter, he introduced Sh.Sant Sinha, Dr Puja Mishra and Dr Sharmista Roy of UMU as new members nominated on the AC who joined the University in July and August, 2017, respectively.

He informed the Council that the 2017-18 academic session of the University began as per schedule on 8th August with the offer of MBA, BBA, MCA, BCA and Diploma Programmes in Mechanical, mining, CS, civil and Electrical approved by the Academic Council. The university intends to propose a few more programmes for the consideration and approval of the AC in this meeting. Thereafter, the Council took the agenda items for its consideration
AC.3.2 To confirm the minutes of the second meeting of the Academic Council and Action Taken Report

AC 3.2.1 The Registrar informed the Council that the minutes of the second meeting of the Academic Council held on 20.6.17 had been circulated to all members and no comments or amendments had been received from the members within a fortnight. He proposed that the minutes may be approved as circulated and placed at Appendix 1.

AC 3.2.2 The Registrar further informed the members that action has been taken on various decisions of the previous meeting of AC:

1. The academic calendar approved by the AC was circulated to all students and faculty members during the orientation programme held on 8.8.17. It has also been put on the University Website. It is being followed in letter and spirit.
2. To offer PhD programme, an ordinance has been formulated for approval of the Council. The Council approved the Action taken Report.

AC.3.3 Matters arising out of the minutes

In its last meeting BOM decided that girl students enrolling in any course and having marks more than 60% in their qualifying examination shall be granted 30% scholarship. AC had endorsed the decision. However, one member pointed out that to be fair to all, the percentage of marks for girl students should be raised to 70%. Moreover, if possible, the University should conduct Merit Scholarship examination from next year. Subject to these suggestions, minutes of the second meeting were approved by the AC.

AC.3.4 To consider and approve policy for conduct of Examinations and grading system

AC 3.4.1 The Registrar informed the members that the University has to conduct examinations and grade its learners for assignments, mid-term test and term-end examinations. Therefore it is necessary to consider and approve the rules for the same.
AC 3.4.2 The Registrar then highlighted that the University proposes to use a judicious combination of continuous evaluation through assignments and mid-term tests and term-end examinations with following weightage:

- Assignments: Two, each with 10% weightage
- Mid-term Test: One, weightage 25%
- Attendance: 5% (depending on the % of attendance as per UGC guidelines)
- Term-end Exam: 50%

AC 3.4.3 While considering the proposal, AC advised that weightage of the continuous assessment and term end examination should be 40:60. For all theory papers the weightage of assignment, mid-term test and class attendance should be 10%, and 25%, and 5%, respectively. The attendance marks may be assigned as per UGC guidelines. For papers with practical component, the term end theory component weightage be retained as 60% and the continuous assessment will comprise one assignment (10%) and class attendance (5%). However, for practicals, 15% marks may be assigned for assessment of everyday work done in the lab and 10% marks may be assigned for the term end practical exam.

AC 3.4.4 The Academic Council also decided that the proposed exam policy may be termed as Regulations for Conduct of Examinations. The AC further decided that the University should refrain from holding supplementary examinations except in the case of graduating students and that too for back-papers of the 5th and 6th semesters only. Students failing a paper will be promoted to the next semester and will take the re-sit exam the next time the paper is offered by the University. Promotion to the succeeding semester in the first year would be given to all appearing in the examination, irrespective of the number of credits earned. However, from second year onwards, promotion to successive semesters will be contingent upon the student successfully clearing 50% of the credits offered in a given semester.

There should be Moderation Board for each paper and it should be chaired by the HoD or the Senior most Teacher with at least two other members, one of whom may preferably be an outsider. With these observations, the AC approved the proposal. The approved document is placed at Annexure 2.
AC.3.5 to consider and approve Research Guidelines for offer of M.Phil / PhD Programmes

AC 3.5.1 The Registrar informed the members that in its previous meeting, Academic council had approved launch of PhD programme subject to strict adherence to UGC guidelines to cater to its second dimension of creating new knowledge. To this end, M. Phil / PhD guidelines have now been developed and the University proposes to announce offer of these programmes in Management, Computer Science, Mathematics, Economics, Commerce and Physics. He further informed that last date of receipt of applications shall be 18th September, 2017 and entrance test will be conducted in Ranchi and Delhi NCR on 24th September, 2017.

AC 3.5.2 The Registrar also informed the members that as per UMU Act, a Research Council (RC) should oversee the research activities of the University. But due to inadvertent omission, we missed it thus far and now we are in the process of constituting the RC. However, since AC is the supreme academic authority of the University, it is competent to approve the proposal subject to ratification by the RC. The proposal is placed for its consideration and approval.

AC 3.5.3 While considering the proposal, the members advised that RC be constituted immediately to conform to the stipulations of the University Act and the points raised in the last meeting be adhered to while offering the programme. Thereafter, the Academic Council considered the proposal and approved it after detailed deliberations. The approved guidelines along with programme fee are placed at Annexure 3.

AC.3.6 To consider and approve offer of BEd (Special Education), MA (Education) and LLB programmes

AC 3.6.1 The Academic Council in its previous meeting had decided that to improve the profile of the University and impart quality education in the state, integrated programmes like BA-LLB and BBA-LLB may be put on offer to diversify offerings. Placing the item for the consideration of the Council, the Registrar informed the members that several inquiries have been received for programmes such as BEd (Special Education), MA(Education) and LLB.
AC 3.6.2 The Registrar also informed the Council that their suggestions in the last meeting in respect of new programme launches availability of qualified faculty, number of prospective students students and approvals of relevant bodies would be ensured before finalizing the decision to launch the programmes. carefully. Thereafter, the Council deliberated on the proposal at length and approved it while reiterating the approvals of statutory national bodies must be obtained before launch of BEd (Special Education) and LLB to avoid inconvenience to the graduates of the University.

AC.3.7 Any other matter with the permission of Chair

AC 3.7.1 The registrar informed the council that looking at the requirements of students and faculty to be with their families during the local festival season, a minor readjustment in the academic calendar is needed and can be managed by preponing the semester break from the 2nd -7th October to 25th September to 30th September. The no. of academic days will remain unchanged. One member opined that such an internal adjustment could be done by the University administration. Thereafter, the proposal was approved by the AC.

Dr Viplaw Pandey
Registrar and Member Secretary
Appendix 2

USHA MARTIN UNIVERSITY

Minutes of the First Meeting of RC held on 2.12.2017

The First Meeting of the Research Council of Usha Martin University was held on 2.12.2017 in the conference Hall. The following members were present:

1. Prof. S.C. Garg, Vice Chancellor, Chair
2. Prof. Madhulika Kaushik, Member
3. Prof. D. P. Trivedi, Member
4. Dr Kumar Rajnish, Assoc Professor BIT Mesra, Jharkhand, Member
5. Dr Pooja Mishra, Asst. Professor, UMU
6. Dr Sharmista Roy, Asst. Professor, UMU
7. Dr Anandrup Asst. Professor, UMU, Special Invitee
8. Dr Anupma Verma Asst. Professor, UMU, Special Invitee
9. Dr. Viplaw K. Pandey, Registrar, UMU, Member Secretary

RC 1.1 Welcome and Opening Remarks by the Chair

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all the members on behalf of the University and on his own behalf. He said that he was particularly grateful to the external members for agreeing to associate with
research council of UMU and give the benefit of their expertise in the formative period of the University. He then requested members to introduce themselves. He also informed the Council that the academic session of the University began with the offer of nine programmes from 8th August. As advised by the AC and BOM, the University announced offer of research programmes (M.Phil and PhD) in Management, Computer Science, Commerce, Economics, and Physics. Since the University adopted UGC guidelines, it conducted two entrance tests and for those securing 50% and above, interviews were held. The recommendations of the expert committees will be placed before the Council under Item RC 1.2.

Prof. Garg also briefed the members about other academic activities of the University and its resolve to excel for the good of all stakeholders. He also invited suggestions of the members for future development.

**RC 1.2** To share BOM approval on research guidelines for PhD and M. Phil Programmes

**RC1.2.1** The Chairman requested Dr Pandey, Registrar to present the agenda items for the consideration of the Research Council. Following this, Dr Pandey informed the members that in its second meeting held on 9.9.17, BOM had approved offer of research degree programmes of the University with UGC guidelines.

**RC1.2.2** The Research Council appreciated the decision of the BOM and adopted the rules.

**RC1.3** To consider and approve recommendations for discipline wise admission in M. Phil and PhD programmes for 2017-18

**RC1.3.1** Dr Pandey informed the Council that the University conducted its entrance test for the PhD and M. Phil programmes on 24.9.17 and 19.11.17 2017 in the University Campus as well as the corporate office in NCR. The candidates qualifying the admission test as per UGC guidelines adopted by the University were invited for interview discipline-wise on 23rd and 28th November and 1st and 2nd December 2017. The subject-wise interviews of successful candidates on 1st and 2nd December 2017 were conducted with the help of eminent subject experts. The list of the candidates recommended for admission discipline-wise to the
research degree programmes on the basis of their combined performance in written and viva voce examinations was tabled in the meeting.

**RC 1.3.2** The item was taken up for discussion. The Research Council observed that the details provided were in order and approved the admission of the following candidates:

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**RC1.4 Any Other matter with the permission of the Chair**

**RC 1.4.1** With the permission of Chair, Dr Pandey informed the Council that there is a provision of co-supervisors in UGC research guidelines, provided a university attaches one of its faculty members as supervisor. Though UMU faculty has a few years of teaching experience, yet it would be worthwhile to associate senior researchers from premier institutions. He then presented bio-data of two senior professors and proposed to recognize them as co-guides:

1. Prof. Vandana Bhattacharya, Head, Department of CS, BIT, Mesra
2. Prof. Swarat Chaudhauri, St Xaviers College, Ranchi

**RC 1.4.2** The Council appreciated the idea of associating senior researchers with UMU faculty and while approving the proposal suggested that wherever necessary adjunct research professors should be appointed by the University and advised that such appointments be made following standard procedure for recruitment of faculty.

The meeting ended with a vote of thanks to the Chair.

This is issued with the approval of the Chair.

Dr Viplaw Pandey
Registrar, UMU
## USHA MARTIN UNIVERSITY

ACADEMIC Calendar (First Semester)

August – December, 2018

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Detail</th>
<th>Registration and Submission of Registration Form without late fee</th>
<th>Registration and Submission of Registration Form with late fee</th>
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<tr>
<td></td>
<td><strong>Registration</strong></td>
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<tr>
<td>1</td>
<td>Registration and 1&lt;sup&gt;st&lt;/sup&gt; semester fee deposit: (Please consult Annexure 1 for details of the fee for your programme)</td>
<td>1/8/2018</td>
<td>06/08/18 to 20.08.18 INR 1000/-</td>
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<td></td>
<td>Issue of Student ID card</td>
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<p>|         | <strong>Commencement of Classes</strong>                 |                                                                  |                                                                |
| 2       | 1&lt;sup&gt;st&lt;/sup&gt; Semester All courses.         |                                                                  | 8&lt;sup&gt;th&lt;/sup&gt; August, 2018                                   |
| 3       | Allotment of Assignment to all Students      |                                                                  | 31&lt;sup&gt;st&lt;/sup&gt; August, 2018                                  |
|         | First internal assessment test               |                                                                  | 21&lt;sup&gt;st&lt;/sup&gt; Sept to 24th Sept, 2018                       |</p>
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<tr>
<td><strong>5.</strong></td>
<td>1\textsuperscript{st} Internal assessment results</td>
</tr>
<tr>
<td></td>
<td>29\textsuperscript{th} September, 2018</td>
</tr>
<tr>
<td><strong>6.</strong></td>
<td>Semester Break</td>
</tr>
<tr>
<td></td>
<td>7\textsuperscript{th} October to 14\textsuperscript{th} October, 2018</td>
</tr>
<tr>
<td><strong>7.</strong></td>
<td>Mid Semester Examination</td>
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<tr>
<td></td>
<td>15\textsuperscript{th} October to 27\textsuperscript{th} October, 2018</td>
</tr>
<tr>
<td><strong>8.</strong></td>
<td>Date of declaration of midterm test results</td>
</tr>
<tr>
<td></td>
<td>10 November, 2018</td>
</tr>
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<td><strong>9.</strong></td>
<td>2\textsuperscript{nd} internal assessment test</td>
</tr>
<tr>
<td></td>
<td>3\textsuperscript{rd} and 4\textsuperscript{th} December, 2018</td>
</tr>
<tr>
<td><strong>10.</strong></td>
<td>Internal assessment results</td>
</tr>
<tr>
<td></td>
<td>10\textsuperscript{th} December</td>
</tr>
<tr>
<td><strong>11.</strong></td>
<td>Display of Shortage of Attendance</td>
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<tr>
<td></td>
<td>10\textsuperscript{th} December</td>
</tr>
<tr>
<td><strong>12.</strong></td>
<td>Preparatory Leave</td>
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<tr>
<td></td>
<td>10\textsuperscript{th} December – 16\textsuperscript{th} December, 2018</td>
</tr>
<tr>
<td><strong>13.</strong></td>
<td>Semester Examination</td>
</tr>
<tr>
<td></td>
<td>17\textsuperscript{th} December to 29\textsuperscript{th} December, 2018</td>
</tr>
<tr>
<td><strong>14.</strong></td>
<td>Date of declaration of semester result</td>
</tr>
<tr>
<td></td>
<td>12\textsuperscript{th} January, 2019</td>
</tr>
</tbody>
</table>

**Note:**

1. If the date of commencement of any academic activity is a holiday, the same will commence from the next working day.
2. The marks of internal assessment should preferably be made available to the office of Controller of examinations within one week from the day of respective examination.
3. Student activity for the 1\textsuperscript{st} semester will be as follows:
   a. Induction Meeting : 7\textsuperscript{th} August, 2018
   b. Fresher’s Day : 20\textsuperscript{th} August, 2018
   c. Sports meet : 19\textsuperscript{th} Nov to 21\textsuperscript{st} Nov, 2018
### ACADEMIC Calendar (Second Semester)

**January to June, 2019**

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<tr>
<th>S.No.</th>
<th>Detail</th>
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<td></td>
<td>Date</td>
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<tr>
<td><strong>1</strong></td>
<td><strong>Registration</strong></td>
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</table>
| | Registration and 2\textsuperscript{nd} - semester fee deposit:  
(Please consult Annexure 1 for details of the fee for your programme) | 5\textsuperscript{th} January, 2019 | 19\textsuperscript{th} January, 2018 | INR 1000/- |
<p>| <strong>2</strong> | <strong>Commencement of Classes</strong> | 2\textsuperscript{nd} - Semester All courses. | 7\textsuperscript{th} January, 2019 |
| <strong>3</strong> | Allotment of Assignment to all Students | | 28\textsuperscript{th} January, 2019 |
| <strong>4</strong> | First internal assessment test | | 18\textsuperscript{th} Feb to 23\textsuperscript{rd} Feb, 2019 |
| <strong>5</strong> | 1\textsuperscript{st} Internal assessment results | | 28\textsuperscript{th} Feb, 2019 |
| <strong>6</strong> | Semester break | | 3\textsuperscript{rd} March to 10\textsuperscript{th} March, 2019 |</p>
<table>
<thead>
<tr>
<th></th>
<th>Event</th>
<th>Dates</th>
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<tbody>
<tr>
<td>7</td>
<td>Mid Semester Examination</td>
<td>11&lt;sup&gt;th&lt;/sup&gt; March to 16&lt;sup&gt;th&lt;/sup&gt; March, 2019</td>
</tr>
<tr>
<td>8</td>
<td>Date of declaration of midterm test results</td>
<td>25&lt;sup&gt;th&lt;/sup&gt; March, 2019</td>
</tr>
<tr>
<td>9</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; internal assessment test</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; May to 4&lt;sup&gt;th&lt;/sup&gt; May, 2019</td>
</tr>
<tr>
<td>10</td>
<td>Internal assessment results</td>
<td>13&lt;sup&gt;th&lt;/sup&gt; May, 2019</td>
</tr>
<tr>
<td>11</td>
<td>Display of Shortage of Attendance</td>
<td>4&lt;sup&gt;th&lt;/sup&gt; May, 2019</td>
</tr>
<tr>
<td>12</td>
<td>Preparatory Leave</td>
<td>5&lt;sup&gt;th&lt;/sup&gt; May to 12&lt;sup&gt;th&lt;/sup&gt; May, 2019</td>
</tr>
<tr>
<td>13</td>
<td>End Semester Examination</td>
<td>14&lt;sup&gt;th&lt;/sup&gt; May to 25&lt;sup&gt;th&lt;/sup&gt; May, 2019</td>
</tr>
<tr>
<td>11</td>
<td>Summer Break</td>
<td>27&lt;sup&gt;th&lt;/sup&gt; May to 29&lt;sup&gt;th&lt;/sup&gt; July, 2019</td>
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<tr>
<td>12</td>
<td>Date of declaration of semester result</td>
<td>22&lt;sup&gt;nd&lt;/sup&gt; June, 2019</td>
</tr>
</tbody>
</table>

**Note:**

1. If the date of commencement of any academic activity is a holiday, the same will commence from the next working day.
2. The marks of internal assessment should be displayed within one week from the day of respective examination.
Minutes of the Fifth Meeting of the Academic Council of Usha Martin University held on 11.10 2018

The fifth meeting of the Academic Council of Usha Martin University was held on 11.10 2018 at 3 pm in the University Campus. The following members were present:

1. Prof. S. C. Garg, Vice Chancellor, UMU – Chair
2. Prof. Vandana Bhattacharjee, BIT Mesra, Ranchi,
3. Prof. Madhulika Kaushik, PVC, UMU
4. Dr Vinay Singh, Associate Prof., UMU
5. Dr. Arvind Hans, Associate Prof., UMU
6. Dr Anupma Verma, AP., UMU
7. Sh. Abhishek Pandey, AP, UMU
8. Prof. Viplaw K. Pandey, Registrar, Member Secretary

Prof. L. N. Bhagat, Prof. S. Chaudhari, Dr Sarmistha Roy, A.P., UMU and Sh. Abhishek Pandey, AP, UMU could not attend the meeting due to prior engagements.

AC.5.1 Chairman’s comments and welcome

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf. He expressed his gratefulness to the members for sparing their time and giving UMU the benefit of their experience and expertise. He felt assured that with their continued support, the university would succeed in its mission of providing high quality inclusive education at affordable cost to all in the state of Jharkhand, reverse the process of brain drain and supplement the efforts of MHRD, Jharkhand in increasing the GER in higher education. Before requesting the Registrar to present the Agenda Items, he informed the members that in the last academic session, AC met four times and RC met once each. The second meeting of RC was held on 27.7.18. He also shared with the members all the academic developments since the last meeting.

- Spandana Sphoorty Financial Limited visited the Campus on 5.10.18 and 11.10.18 to conduct placement interviews. Four of UMU’s MBA students were successful in getting final placements; three as Branch managers for Jharkhand zone and one as HR Executive. On behalf of the University and on his own behalf, the Chair
congratulated all the students, the Placement Officer and the Registrar, under whose guidance the entire exercise was undertaken.

- UMU has been conferred awards of the best upcoming university and the most innovative university of East India.

- **Meetings in MHRD, Jharkhand:** MHRD, Govt. of Jharkhand convened meetings of the Vice Chancellors of private universities on 9th May and 10th August, 2018. One of the issues constantly pressed in the meeting was acquisition of land as underlined in the initial proposal for setting up the University. In the May meeting, UMU was given six months to purchase land and deposit evidence for the same in the Ministry. In the August meeting, this issue was again raised by the Secretary, Technical and Higher Education. He was informed by the VC that the management has signed an agreement for 31.6 acre land in Narayan Soso. The process of getting the land registered in the name of the University should be completed by October-end. It is hoped that construction of buildings will begin by end of 2018 and we should start our 2019 session in our own buildings.

The Secretary also inquired about the programmes offered by the University in general and PhD programme in particular. The VC informed the Secretary about exact details in that 22 research scholars had joined the PhD programme of UMU in 2018 (Management 12, Computer Science 4, Commerce 3, Physics, Mathematics and English one each,) and as required by 2016 regulations of UGC, every scholar has been assigned an internal Supervisor.

**Commencement of the 2nd Academic Session:** The 2nd Academic session at UMU for 3rd semester students commenced from 16th July, 2018, whereas Academic session for 1st semester commenced on 8th August, 2018. (All other private universities in the state have scheduled their academic session to commence in September. We have matched our calendar with the schedules of frontline institutions such as BIT and Ranchi University.) Induction meetings were held and students were appraised with good teaching-learning practices of the University. While orientation of old students was done by Prof. Viplaw Kishore Pandey, the new students were addressed by the VC and respective discipline teachers. The queries of the parents of new students were responded to by the Registrar. I am happy to inform you that in 2018, 305 (283+22) students enrolled till 30.9.18 with an impressive year on year growth rate of about 40%.

The Vice Chancellor emphasized the need to comply with the requirement of 70% attendance put by the UGC to be eligible for taking midterm and end-semester
examinations. The anti-ragging measures taken by the University made sure that new students were not harassed. As far as diversification of the academic profile of the University is concerned, it has taken several initiatives. Some of these include

- The University has added BCom, MCO, BA (English) Hons and PhD programmes to the earlier bouquet of programmes.
- The research scholars who joined in the first cohort have submitted their research proposals, which are being examined by the Departmental Committees of overseers. Moreover, their term-end examination for Research Methodology paper was held on 15th September.
- The Research Council of the University had advised that every scholar should be asked to submit progress report every six month. The Controller of Examinations has been tasked with developing the format of the same.

• **Addition of Core faculty:** In the last academic session, UMU had recruited 8 full time teaching faculty members. Of them, services of one academic staff were terminated due to unsatisfactory performance and frequent absence. Also, one AP in Computer Science left the University with effect from 14th July, 2018 for family reasons. One AP (Management) resigned in September to join Sarla Birla University. Their resignations were accepted by the Vice Chancellor subject to ratification by the BOM.

With the addition of a new batch and introduction of specializations in MBA and Diploma programmes, it became mandatory to recruit new faculty. Accordingly, the positions of AP, Associate Professor and Professor were advertised through University Website. The shortlisted candidates were interviewed and selection committees constituted for all subjects had at least one eminent external expert. Appointment of One Professor, one Associate Professor, four Assistant Professors and four Faculty Associates was approved by the BOM in its last meeting.

As of now, the University has 11 full time PhD faculty members at different levels (Professor 1, Associate Professors 3 and Assistant Professors 7). All other faculty members are enrolled in PhD programmes of BIT or Ranchi University. They have cleared their course work and the research work is at different stages of completion.

- The full time faculty of 16 at UMUs is supported by eight visiting scholars. (In 2017-18, we had four visiting faculties.) In case UGC accords approval to the UMU proposal for
offering distance education programmes, the University might have to go for another round of recruitments.

- **Training and Placement Officer:** The Chairman shared the concern that huge structures cannot be created with brittle material. In the instant case, the quality of education and training imparted will be judged by placement of final year MBA students. In addition to domain knowledge, students would need to develop communication and presentation skills so that they can impress in group discussions as well as one-to-one interactions with employer representatives. To accomplish this task, the University has appointed Training and Placement Officer, who has considerable experience and excellent network of employer groups. She has been working hard to make sure that we achieve 100% placements.

- **Creation of additional infrastructure:** One workshop and four additional rooms have been created on the campus. All lectures rooms now have facilities for A/V presentation and the campus gives the feel of technology enabled institution. The University has hired one floor in a new building known as Knowledge Centre and would soon shift its city office there. Moreover, the University plans to use additional space for holding classes for Research Methodology and Computers in Research for PhD scholars, apart from B. Com, M. Com and BA (English) Hons and organizing MDPs.

- **Development of Learning Management System:** The University has developed LMS system to promote ICT enabled education. Students as well as faculty would be trained to share all learning resources and interact among themselves for effective teaching-learning.

- **Provision of Payment of Provident Fund:** The Finance Committee had in its meeting highlighted the importance of attaining self-sustainability in due course while suggesting that payment of PF and annual increments to all regular teachers as well as non-teaching staff should be implemented as a mandatory requirement. The University management has approved payment of PF and the details are being worked out.

As for increments, a raise ranging from 4.5 to 6k was awarded to the teaching staff.

Thereafter, the Vice Chancellor requested the Registrar to present the agenda items. The Council then took up the agenda items for its consideration.
AC.5.2 To confirm the minutes of the Fourth meeting of Academic Council and matters arising out of minutes

AC 5.2.1 Prof. Pandey, Registrar, informed the Council that the minutes of Fourth meeting of the Academic Council held on 27.3.2018 were circulated to all members soon after and are placed at Annexure 1. No comments were received from any member after circulation of the minutes. In view of the decision taken in the last meeting, he requested the members that Minutes may be deemed to have been confirmed as circulated.

He then invited members to raise any matter arising out of the minutes for the betterment of the University and its stakeholders.

AC 5.2.2 The Council approved the minutes as circulated. No issue was raised under matters arising out of minutes.

AC.5.3 Action Taken Report

The AC perused the action taken (Annexure 2) and expressed satisfaction on compliance of its decisions.

AC.5.4 To note the minutes of the Research Council

AC.5.4.1 The Registrar informed the Academic Council that the University conducted its second entrance test for the PhD and M. Phil programmes on 24.6.18 for admission in management, computers, commerce, physics, English and mathematics. The candidates qualifying the admission test were invited for an interview discipline-wise. The interviews of candidates qualifying the admission test as per UGC guidelines adopted by the University were conducted with the support of eminent subject experts. The Research Council approved the list of twenty five candidates (Management 13, Commerce 4 and Computer Science 5, physics, 1, mathematics1, English 1) for admission to the research degree programmes. Of them, twenty two candidates have joined (Management 12, Commerce 3 and Computer Science 4, physics, 1, mathematics1, English 1) and orientation programme for them was held on 15.9.18. All research scholars were informed that every candidate has
to submit six monthly progress report. The minutes of the Research Council are placed at Annexure 3.

AC.5.4.2 The item was taken up for discussion. The Academic Council noted that the no. of scholars seeking admission in the PhD programme of the University has diversified horizontally as well as vertically and appreciated the University for the same.

AC.5.5 To note the decision of BOM for offer of programmes through ODL Mode

AC 5.5.1 The Registrar informed the Council that while considering the proposal for admitting private candidates in its last meeting, the AC had advised that UMU should do so only if UGC permitted it. While placing the action taken on the decisions of the last meeting, it has been reported that UGC prohibited such enrollments and the University did not proceed further. But recently, UGC has decided that private universities could seek its approval to offer through the ODL mode only those programmes which they offer in the F2F mode. This decision seems to be guided by the consideration of improving GER in higher education. Accordingly, the BOM resolved by circulation to take all possible steps for seeking approval of DEB, UGC for offer of MBA, BBA, M.Com, B.Com and B.A(Hons) English. The Academic Council further approved by circulation the PPRs and strategy for development of SLMs for these programmes so that the same could be used for the purpose of application for approval of Distance Education Bureau, UGC for offering these programmes through the ODL mode for the period 2018-19. The University submitted its application on 4.10.18 (The last date for submitting application was 5.10.18.)

AC.5.5.2 The Academic Council noted the decision of BOM while reaffirming its own decision.

AC.5.6 To consider the recommendations of COO in respect of courses of CS

AC 5.6.1 The Registrar informed the Council that the University began to offer BCA and MCA programmes w. e. f the academic year 2017-18. In its first meeting held on 19.4.17, the AC had decided to adopt CBCS system for offer of various programmes. However, the UGC
document provides window for up to 30% change either to customize a programme for local context or meet contemporary requirements. Since changes in computer education are taking place very rapidly, the faculty of the University considered it prudent to make these programmes more relevant in present day context. To incorporate changes, the VC constituted a Committee of Overseers, which has suggested changes in the syllabi of BCA as well as MCA programmes. These are highlighted in Annexure 3 and 4, respectively of Agenda papers.

AC 5.6.2 The item was discussed in detail and the members advised that

- a paper on Internet of things be included in BCA as well as MCA;
- the lab courses should be included with all courses to account for no. of credits; and
- projects may be included where lab work is not planned, if required, to accommodate the no. of credits.

AC 5.7 To consider and approve the Syllabi for Course Work in Research Methodology and Computers in Research

AC 5.7.1 The Registrar informed the Council that the University began to offer M.Phil / PhD programmes in 2017 and eight research scholars were enrolled in the first cohort. The course work on Research methodology was transacted as per UGC guidelines and the contents are appended in Annexure 6 for perusal and approval of the AC. He further informed that in the second cohort admitted in August 2018, the course work on RM and Computers in Research is on offer and the syllabus for the latter is also placed at Annexure 6. He requested the Academic Council to approve the syllabi of the proposed courses.

AC 5.7.1 The Academic Council discussed the course contents in detail and approved these as proposed.
AC.5.8  Any other matter with the permission of Chair

No matter was taken up under this item.

The meeting ended with vote of thanks to the Chair.

Prof. Viplaw Kishore Pandey
Registrar and Member Secretary
AC.4.1 Chairman’s comments and welcome

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf.

Thereafter, he informed the Council that

(i) Since the time we met in the last meeting of AC, Ms Anupma Verma, Ms Jayantika Pal and Mr. Vinay Singh have been awarded PhD degree by their respective
institutions in Management, mathematics and Computer Science. He congratulated them for their success.

(ii) The examinations for the first semester were held as per guidelines approved by the AC for the 2017-18 academic session of the University. However, we are in the process of constitution of moderation boards. The second semester began as per schedule on 8th January, 2018. The University intends to propose a few more programmes for the consideration and approval of the AC in this meeting.

(iii) The University launched its PhD programme as per guidelines approved by the AC earlier and as of now eight scholars have been enrolled: Commerce 3; Computer Science 4; Management 1

AC.4.1.1 A member suggested that the University should (i) use external paper setters, and (ii) engage an external observer during the final semester examinations to begin with. To meet the requirements of visiting UGC/NAAC teams. Also, IQAC and such other committees be constituted.

AC.4.1.2 The VC informed the AC that committees like the IQAC, student grievance handling and prevention of sexual harassment have already been constituted. Also a formal process of getting course wise student feedback has been put in place.

Thereafter, the Vice Chancellor requested the PVC or the Registrar to present the agenda items. The Registrar requested the PVC to do the needful. The Council then took the agenda items for its consideration.

AC.4.2 To consider and approve minutes of the Third meeting of AC and matters arising out of minutes

AC.4.2.1 Prof. Madhulika Kaushik, PVC informed the Council that the minutes of the third meeting of the Academic Council held on 8.9.17 were circulated by the Registrar on 11.9.17 to all members and no comments were received or amendments proposed by any member within a fortnight. Therefore, the minutes may be deemed to have been confirmed as circulated. These are placed at Appendix 1.

She then invited members to raise any matter arising out of the minutes for the betterment of the University and its stakeholders.
AC 4.2.2 The Council approved the minutes as circulated. No issue was raised under matters arising out of minutes.

AC.4.3 Action Taken Report

The AC perused the action taken and expressed satisfaction on compliance of its decisions.

AC.4.4 To note the minutes of the Research Council

AC.4.4.1 The PVC informed the Academic Council that the University conducted its entrance test for the PhD programmes in Commerce, Management and Computer Science and M. Phil in Physics on 24.9.17 and 19.11.17 2017 in accordance with its approved research guidelines. The candidates qualifying the admission test conducted by the University or having cleared the NET/SLAT tests were invited for interview discipline-wise on the 1st and 2nd of December 2017. The interviews were conducted with the support of eminent external experts who were invited subject-wise.

AC.4.4.2 The PVC further informed that out of twelve candidates, the expert committees recommended nine candidates for admission to the research degree programmes on the basis of their performances in written and viva voce examinations (Management 2, Commerce 3 and Computer Science 4). Another candidate named Ms Shristi was found eligible from among the candidates who appeared in the admission test at Delhi. They were offered admission in the programmes. However, Ms Neha Kumari has neither attended any class nor submitted her semester fee. The Controller of Examinations has written to her to inform in writing by 24th March whether or not she is interested in joining the PhD programme of UMU. In the mean time, Ms Shristi also requested that she may be allowed to withdraw. So as of now, only eight candidates are registered in the PhD programme.

AC.4.4.3 Prof. Kaushik informed the Council that UGC guidelines stipulate that every scholar should be assigned at least one research supervisor by the University out of its regular faculty members. The University, in consultation with the candidates, has associated research supervisors (internal and in some cases external co-guides) to five scholars as per following details:
<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of Candidate</th>
<th>Principal Supervisor</th>
<th>Co-supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Biresh Kumar s/o Sh. Madhav Prasad Singh</td>
<td>Dr Anandrup Roy</td>
<td>Dr Sharmistha Roy, UMU</td>
</tr>
<tr>
<td>2.</td>
<td>Kamaldeep s/o Sh. Kedar Nath Sahu</td>
<td>Dr Sharmistha Roy</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Prakash Kumar s/o Sh. L. N. Singh</td>
<td>Dr Vinay Singh</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Surya Narayan Prashad s/o Lt. Sidhnath Prashad</td>
<td>Dr Vinay Singh</td>
<td>Prof. S. Chaudhari, St Xaviers College, Ranchi</td>
</tr>
<tr>
<td>5.</td>
<td>Shahabuddin Ahmed s/o Sh. Shamshuddin Ahmed</td>
<td>Dr Puja Mishra</td>
<td>Dr Anupma Verma, UMU</td>
</tr>
<tr>
<td>6.</td>
<td>Amita Kashyap d/o Sh. A. N. Kashyap</td>
<td>Dr Viplaw Pandey</td>
<td>Dr Anupma Verma, UMU</td>
</tr>
<tr>
<td>7.</td>
<td>Anupam Abhishek Singh s/o Sh. Atul A Singh</td>
<td>Dr Viplaw Pandey</td>
<td>Dr Puja Mishra, UMU</td>
</tr>
<tr>
<td>8.</td>
<td>Santosh Kumar Yadav s/o Sh. Sukhdeo Yadav</td>
<td>Dr Viplaw Pandey</td>
<td>Dr Anupma Verma, UMU</td>
</tr>
</tbody>
</table>

Other scholars can also suggest the names of external candidates, if they so desire.

The AC was informed that Vice Chancellor had advised all scholars to submit their research proposals in consultation with their research supervisors, preferably by February end.

**AC.4.4** The item was taken up for discussion. The Academic Council appreciated the University for strictly adhering to UGC guidelines and advised that it should continue with this practice for quality control and keep away from spurious practices in its offerings. However, as a progressive measure, it should consider offering Research Methodology course either on-line or as a MOOCs course and grant credit exemption for the same. Moreover, running the Research Methodology course as a MOOC for both external and internal students could help generate revenue, if a modest fee is levied for external students.

**AC.4.5** To consider and approve new programmes for launch in 2018

**AC.4.5.1** The PVC informed the Academic Council that in its previous meeting, it had decided that the University should diversify its offerings and advised that need based job oriented programmes in different subjects be added gradually, subject to availability of highly qualified faculty. Further, while according approval to programmes such as B. Ed (Special...
Education) and LLB, it desired that approval of national statutory bodies be obtained so that our learners are not put to any inconvenience at any later time.

AC.4.5.2 Prof. Kaushik told the Council that following the directions of the AC, the University applied for approval of B. Ed (Special Education) and LLB programmes to RCI and the Bar Council of India, respectively. However, the approvals are still awaited. In the mean time, it was considered prudent that to keep pace with rapid changes taking place in the field of computer education and technology, the University should offer Diploma programme in Artificial Intelligence and Machine Learning with multiple entry and exit points w. e. f 2018 session. It would be a modular programme with Diploma, Advance Diploma and possibly a Bachelors Degree as successive modules. The detailed curriculum of the Diploma programme shall be placed in the next meeting of AC.

AC.4.5.3 The Council was further informed that new session of the University would start from August 8, 2018 and students enrolled in MBA programme last year are to be offered specializations from third semester onwards. Being the first time for offering specializations, it is proposed to confine as of now to HR, Marketing and Finance, provided a minimum of five students opt for a particular stream. Every student would be required to take at least three courses in that area as well as undertake his/her final semester project in the same area. We would like to add International Business, Entrepreneurship and small business management and such other specializations in due course.

AC.4.5.4 The Council deliberated on the proposal at length and approved it while reiterating its earlier decision of obtaining approvals of statutory national bodies before launch of BEd (Special Education) and LLB. Moreover, as far as offering specialisations to MBA students is concerned, the Council decided that the proposed condition of minimum of ten students in a specialisation should not be enforced in the initial few years. Further, computer laboratory with adequate no. of PCs and genuine software be made available to offer AI&ML programme. The Council was highly appreciative of the modularity of the programme with provision for multiple entry and exit points. They also commended the University for such Innovative Programmes, which are not being offered by any institution in the region. It was also suggested that the University should consider offering Diploma programmes in areas such as Cyber security, Cyber Analytics and Applications of Big Data. The entry qualifications for all Diploma programmes should be 10+2.
AC. 4.6 To consider and approve Academic Calendars for the two semesters of 2018-19

AC.4.6.1 The PVC informed the Council that Academic Calendars had approved academic calendars two semesters of the academic year 2017-18.

AC.4.6.2 Prof Kaushik then informed the council that academic calendars for the Year 2018-19 have been prepared based on the philosophy approved earlier and are placed at Annexure 3 for consideration and approval.

AC.4.6.3 The Council approved the academic calendars as proposed.

AC.4.7 Any other matter with the permission of Chair

AC4.7.1 The PVC, with the permission of the Chair proposed, that to reach out to the underprivileged population in the state and give the benefits of higher education to all, the University may like to explore the possibility of enrolling private students.

The second issue raised under this item related to the appointment of adjunct faculty at senior level at UMU. Citing international practice, the PVC proposed that in view of the specialisations at the post graduate level and need for supervisory expertise for the research degree programme, the University would like to appoint adjunct professors/Associate Professors on contractual basis. They would be responsible for certain number of specialisation courses or supervising specific research students. Their remuneration, in the cadre to which they are appointed, would be made proportionate to their workload. This would enable the University to get the benefit of senior academics at relatively viable costs.

AC. 4.7.2 While deliberating the issue of enrolling private students, the members suggested that the idea of extending the offerings of the University to private candidates may be considered, provided the existing UGC regulations do not prohibit it. The University should therefore formally write to the UGC and obtain clearance before taking this initiative forward so as to avoid unforeseen difficulties associated with the recognition of University degree. One member quoted instances of some institutions in the Region offering programmes without due approvals leading to their investigations by the state govt. agencies. The Council approved the second proposal and appreciated the efforts of the University to raise its profile.

The meeting ended with vote of thanks to the Chair.
## Appendix 2

### USHA MARTIN UNIVERSITY

<table>
<thead>
<tr>
<th>S. No</th>
<th>Item</th>
<th>Decision Taken</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>To consider and approve new programmes for launch in 2018</td>
<td>(i) Launch LLB and BEd (Special Education) after approval of statutory bodies</td>
<td>(i) Approval awaited</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) Specialisations in HR, Marketing and Finance be offered.</td>
<td>(ii) Decision for offer specializations to MBA students implemented as approved.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(iii) Diploma in AI &amp; ML to be launched.</td>
<td>(iii) No student sought admission in AI &amp; ML</td>
</tr>
<tr>
<td>2.</td>
<td>To consider academic Calendars for the two semesters of 2018-19</td>
<td>Separate academic calendars be implemented for old and new students.</td>
<td>Academic calendar for 3rd semester students implemented with effect from 16th July whereas for 1st semester students, calendar was implemented with effect from 8.8.18</td>
</tr>
<tr>
<td>3.</td>
<td>Any Other matter with permission of Chair</td>
<td>(i) Open enrollment for private students, provided the existing UGC regulations do not prohibit it.</td>
<td>VC and PVC personally visited UGC Office in New Delhi and met Additional Secretary. They were informed that UGC does not allow any university to enroll private candidate. So no action taken. Noted for action when considered appropriate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) appointment of adjunct faculty at senior level</td>
<td></td>
</tr>
</tbody>
</table>
Appendix 3

USHA MARTIN UNIVERSITY

Minutes of the Second Meeting of RC held on 27.7.2018

The second Meeting of the Research Council of Usha Martin University was held on 27.7.2018 at the University Campus at 10.30 am. The following members were present:

1. Prof. S.C. Garg, Vice Chancellor, UMU, Chair
2. Prof. Madhulika Kaushik, PVC, UMU, Member
3. Prof. G. P. Trivedi, Professor of Commerce, Ranchi University, Member
4. Dr Kumar Rajnish, Associate Professor, BIT Mesra, Jharkhand, Member
5. Dr. Vinay Singh, Associate Professor, CS and Controller of Examinations
6. Dr Puja Mishra, Assistant Professor, Management, UMU, Member
7. Dr Sharmistha Roy, Assistant Professor, Computer Science, UMU, Member
8. Prof. Viplaw K. Pandey, Registrar, UMU, Member Secretary

RC 2.1 Welcome and Opening Remarks by the Chair

The Vice Chancellor began the proceedings by extending a very warm and cordial welcome to all the members present on behalf of the University and on his own behalf. He said that he was highly grateful to all members for participating in the meeting and giving the benefit of their expertise. He shared the following information:

1. The University faculty published 14 research papers; communicated three and 13 were published in conferences. In addition, four members of academic staff have earned PhD degrees (two from BIT Mesra, one from Ranchi University and one from Bundelkhand University in the academic session 2017-18. He proposed that greetings be extended to them all.) The University is making sincere efforts to encourage research by allowing faculty to participate in conferences as also by associating as academic partner.

2. Dr Pandey, Registrar, has now been appointed as Professor of Commerce/Management and Dr Vinay Singh COE (I/C) as Associate Professor, CS. (They will however continue to handle the responsibilities of the offices held by them before upgradation.) He congratulated them for their achievements and hoped that they would rededicate themselves for the growth of the University with greater zeal.
3. A meeting of VC’s was convened by the Minister, Higher Education, Govt. of Jharkhand on 9.5.2018 and a report on the status of the University was presented. To the pointed query about research, the Hon’ble Minister was informed that UMU was following UGC guidelines 2016 in letter and spirit. Though University has been using the provision of eminent external experts as co supervisors with the approval of RC, every scholar has been associated with at least one internal faculty member as the main supervisor. So far, the University had offered admission to only eight scholars in the first cohort. The Registrar also informed that entrance test for the second cohort was scheduled on 24.6.18 for management, computer science, commerce, physics, English and mathematics.

4. To create a niche for itself in research, the University has made a beginning by appointing Assistant Professor (Research).

5. The entrance test for M. Phil/PhD admissions for 2018 was held on 24.6.18 and the successful candidates were invited for interviews subsequently. While internal faculty was associated in setting test items, external experts were associated in moderating these.

6. Dr Anandrup Roy resigned from the University for personal/familial reasons and the same was accepted by the VC subject to ratification by BOM. One research scholar was associated with him jointly with Dr Sarmishtha Roy, AP, UMU. Now it is proposed that he may be continued as external co-supervisor, subject to acceptance by the scholar and approval by Dr Roy’s employer, ISI, Kolkata. In case ISI, Kolkata does not have policy of allowing its employees to be associated as co-supervisor in another university, then the scholar will have to be associated with Dr Sarmishtha alone.

7. The scholars of the first cohort have been pursuing their Research Methodology course. The examination for this will be scheduled shortly. Moreover, most of them have submitted their research proposals and COE is pursuing the matter with those who have yet to submit the same.

Prof. Garg also briefed the members about other academic initiatives taken by the University since the last meeting of RC and resolve of the University to offer high quality education to its learners for inclusive development of the state. He also invited suggestions of the members for future development.

RC 2.1.1 The members appreciated the initiatives taken by the University in general as also the transparency exercised in the PhD programme and advised that to regulate progress of
research scholars, everyone should be advised to submit six monthly progress reports as mandatory requirement. These reports should initially be discussed in the Departmental Board of Studies and then reported to RC. This periodicity will also help candidates in the progress of their work. One member pointed out that the format of the progress report be developed by COE of the University.

RC 2.1.2 As far as the issue of research proposals is concerned, a letter be sent to all those who have yet to submit the same giving a time of one month and if they still fail to respond, their registration could be cancelled.

RC 2.1.3 Members also suggested that remunerations for activities like setting test items and moderation, wherever external experts were involved, be proposed to the Finance Committee for its consideration.

Prof. Pandey, Registrar, then presented the agenda items for the deliberations by the Research Council.

RC 2.2 To consider and approve minutes of the First meeting of Research Council

RC 2.2.1 Prof. Pandey informed the members that in its first meeting held on 2.12.17, the Research Council had
1. noted the research ordinance of the University based on UGC guidelines as approved by the Board of Management;
2. approved the names of ten candidates for enrollment in the PhD programme of the University; and
3. approved Prof. Vandana Bhattacharya, Head, Department of CS, BIT, Mesra and Prof. Swarat Chaudhari, St Xavier's College, Ranchi as external research supervisors.

The Minutes of the meeting were circulated soon after for approval of the members. These are placed at Annexure 1. So far no comments on the minutes by any member have been received.

Dr Pandey further informed that eight candidates (Management 1, CS 4 and commerce 3) finally registered with the University and 7 seats in Management, five seats in CS, five seats in Commerce, and four each in English Physics and Mathematics were available for second cohort.
Prof. Pandey then requested the members to approve the minutes.

**RC 2.2** The Research Council approved the minutes as circulated.

**RC 2.3** Matters arising out of the Minutes

**RC 2.3.1** Prof. Pandey invited members to indicate any decision that may have been left out of the minutes of the first meeting of RC or not presented as decided for discussion under matters arising out of minutes.

**RC 2.3.2** No issue was taken up under this item.

**RC 2.4** To consider and approve Action taken on the minutes of the First meeting of RC

**RC 2.4.1** The item was taken up for discussion. Prof Pandey informed the members that the Action Taken on the decisions of the First meeting of the Research Council is placed in Annexure 2.

**RC 2.4.2** The members perused the Action Taken and were satisfied by the compliance. However, one of the members reiterated that every scholar should be informed that s/he has to submit progress report through the supervisor(s) every six month and on non-submission of two reports consecutively her/his registration could be cancelled. The Council unanimously approved the suggestion.

**RC 2.5** To consider and approve discipline-wise admission in M.Phil and PhD programmes for the second cohort (July 2018 session)

**RC 2.5.1** Prof Pandey informed the Council that In accordance with its approved research guidelines for M.Phil and PhD, the entrance test for was conducted on 24.6.18. In all, 53 candidates appeared in the examination (Management 25, Computer Science 14, Commerce 6, Physics 2, Mathematics 3 and English 3). In addition, six candidates with M.Phil/NET qualifications also applied and were accorded exemption as per UGC guidelines. The candidates qualifying in the admission test were invited for F2F interview discipline-wise, from 23rd July to 26th July, 2018. The interviews of successful candidates were conducted with the help of eminent professors as experts (Prof. S. Chaudhari of St Xavier’s for Physics, Dr Ghoroi of BIT for Mathematics, Prof. Bhattacharya of BIT for CS, Prof. Tripathi
for English and Prof. Das of RU for Commerce. Prof. L. N. Bhagat, Former VC, RU and member, BOM, UMU was requested to help as research methodology expert.)

The list of the candidates recommended for admission to the research degree programmes on the basis of their performances in written and viva voce examinations was tabled in the meeting so as to maintain confidentiality of the process.

We now have 7 seats in Management, 6 seats in CS, 4 in English, 4 in physics and 5 in Commerce as far as available regular full time faculty research load is concerned. In addition, the PVC, who has been a management professor has also desired to take a few students, if suitable candidates were available.

Prof. Pandey then placed the recommendations made on the combined performance in written examination and interview for consideration and approval of the Research Council

**RC 2.5.2** The item was taken for discussion and the Council decided that all candidates securing 50% marks or more overall be offered registration. Subject to this, the names of following candidates were approved:

**Management**

1. Amitabh Chandan
2. Anand Kumar Sinha
3. Arun Shaliesh Kandulna
4. Dhiraj Kamta
5. Pranav Mishra
6. Prem Bhashkar
7. Rashmi
8. Santosh Kumar Gupta
9. Shomik Chandan
10. Dhiman Kanti Mirdha
11. Sayantani Moitra
12. Vivekanand Sharma
13. Khyati Munjal

Commerce
1. Neha Prakash
2. Writika Tekriwal
3. Binod Kumar Bakshi
4. Kumar Gaurav

Computer Science
1. Anshuman Mishra
2. Vishal Chandra
3. Puja Gupta
4. Kumar Sanjeev
5. Ved Prakash

Physics
1. Arunava Mukherjee

Mathematics
1. Suman Kumari Sinha

English
1. Grace Khalko

RC 2.5.3 While approving the recommendations of selection committees, Research Council advised that names of successful candidates should be uploaded on the University Website as well as informed individually through post/email/phone. Moreover, all successful candidates be advised to deposit their fee by 15.8.18 and their classes for Research Methodology should start soon thereafter.

RC 2.5.4 Prof. Pandey informed the members that one of the prospective PhD students had desired that he be also associated with Dr Binod Kumar, who has retired from IIM. RC desired that complete details on qualifications of Dr Kumar be obtained for its consideration.
Any Other matter with the permission of the Chair

No matter was taken up under this item.

The meeting ended with a vote of thanks to the Chair.

Prof. Viplaw Pandey

Registrar, UMU
### Semester wise Subjects Distribution of BCA: 2017

#### Semester – I (2017)

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>Subject Paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>C – I (A)</td>
<td>Programming Fundamentals using C/C++</td>
</tr>
<tr>
<td>C – I (B)</td>
<td>Programming Fundamentals using C/C++ Lab</td>
</tr>
<tr>
<td>C – II</td>
<td>Discrete Structures</td>
</tr>
<tr>
<td>AECC – I</td>
<td>English Communication</td>
</tr>
<tr>
<td>GE – I</td>
<td>*(from GE list) Mathematics</td>
</tr>
</tbody>
</table>

#### Semester – II (2017)

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<tr>
<td>C – III (A)</td>
<td>Programming in JAVA</td>
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<tr>
<td>C – III (B)</td>
<td>Programming in JAVA Lab</td>
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<tr>
<td>C – IV (A)</td>
<td>Data Structures</td>
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<td>C – IV (B)</td>
<td>Data Structures Lab</td>
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<tr>
<td>AECC – II</td>
<td>Environmental Science</td>
</tr>
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<td>GE – II</td>
<td>*(from GE list) Mathematics</td>
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#### Semester – III (2017)

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<td>C – V (A)</td>
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<td>Computer System Architecture Lab</td>
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<td>C – VI (A)</td>
<td>Operating System</td>
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<td>C – VI (B)</td>
<td>Operating System Lab</td>
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<tr>
<td>C – VII (A)</td>
<td>Computer Networks</td>
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<td>Computer Networks Lab</td>
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<td>SEC – I (A)</td>
<td>*(from SEC list) HTML</td>
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<tr>
<td>SEC – I (B)</td>
<td>*(from SEC list) HTML Lab</td>
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### Semester wise Subjects Distribution of BCA: 2018

#### Semester – I (2018)

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<tr>
<th>Subject Code</th>
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<tbody>
<tr>
<td>C – I (A)</td>
<td>Programming Fundamentals using C</td>
</tr>
<tr>
<td>C – I (B)</td>
<td>Programming Fundamentals using C Lab</td>
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<tr>
<td>C – II</td>
<td>Discrete Structures</td>
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<td>AECC – I</td>
<td>English Communication</td>
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<td>GE – I</td>
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#### Semester – II (2018)

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<tbody>
<tr>
<td>C – III (A)</td>
<td>Programming in JAVA</td>
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<tr>
<td>C – III (B)</td>
<td>Programming in JAVA Lab</td>
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<tr>
<td>C – IV (A)</td>
<td>Data Structures</td>
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<td>Data Structures Lab</td>
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#### Semester – III (2018)

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<tr>
<td>C – V (A)</td>
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<tr>
<td>C – VI (A)</td>
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<td>C – VI (B)</td>
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<tr>
<td>C – VII (A)</td>
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### Semester wise Subjects Distribution of BCA: 2017

#### Semester – IV (2017)

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<tbody>
<tr>
<td>C–VIII(A)</td>
<td>Design and Analysis of Algorithms</td>
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<td>Design and Analysis of Algorithms Lab</td>
</tr>
<tr>
<td>C – IX (A)</td>
<td>Software Engineering</td>
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<td>C – IX (B)</td>
<td>Software Engineering Lab</td>
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<td>C – X (A)</td>
<td>Database Management Systems</td>
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<td>Internet Technologies</td>
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<tr>
<td>C – XII (A)</td>
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### Semester wise Subjects Distribution of BCA: 2018

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SYLLABUS OF BACHELOR OF COMPUTER APPLICATION (BCA)

SYLLABUS OF 1ST SEMESTER

1. PROGRAMMING FUNDAMENTALS USING C (C-I(A))

Programme: BCA (I Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

Introduction to C
Introduction to computer programming. Basic structure of a C program. Writing a C program. The compilation and execution process of C program. Building Blocks of C Programs (Keywords, Identifiers, Constants, String, Special Symbols, and Operators).

Data Types, Variables, Constants, Operators and Basic I/O
Data Types in C. Variables, Modifiers, Escape Sequences, Expressions and Operators (Arithmetic, Logical, Assignment, Relational, Bitwise, Special Operators) Un Formatted Input(Reading of single character using the functions getc() and getchar()) and Output(Writing of single character using the functions putc()and putchar()). Formatted Input(Reading of different data type values using the function scanf() ) and Output(Writing of different data type values using the function printf() ).

Expressions, Conditional Statements and Iterative Statements
Expressions, conditional statements and iterative statements. Decision Making and Branching using (Unconditional Branching using goto and Conditional: Two Way Branching using if, if-else, nested if, it-else if ladder and Multi Way Branching using Switch Case). Decision Making and Looping using while(), do-while() and for() Looping construct.

Functions and Arrays
Pointers and References in C

Derived Data Types (Structures and Unions)
Limitation of array. Need of derived data types (structure and union). Basic difference between implementation of structure and union. Declaration of structure and union. Accessing data members of structure and union. Initialization of data members of structure and union. Passing and returning structure to / from the function. Nesting of structure. Structure with union as a member. Union with structure as a member.

Memory Allocation in C++
Differentiating between static and dynamic memory allocation, use of malloc(), calloc() and free() functions, Storage class in C++

Using Classes in C++

Memory Allocation in C++
Differentiating between static and dynamic memory allocation, use of malloc(), calloc() and free() functions, use of new and delete operators, storage of variables in static and dynamic memory allocation.

Overloading of Function
Overloading and Operator Overloading
Polymorphism (Compile time (operator overloading and function overloading) and run time). Overloading of constructor / member method of class. Overloading of operators (unary and binary).

Inheritance, Polymorphism and File Handling

2. DISCRETE STRUCTURE (C-II)

Programme: BCA (I Semester)
Credits: 6
Paper Type: Theory
Lectures/Semester: 45  
Lectures/Week: 4 (3 Lectures + 1 Tutorial)

1. SYLLABUS

Introduction
Sets - finite and infinite sets, uncountable infinite sets; functions, relations, Properties of Binary Relations, Closure, Partial Ordering Relations; counting – Pigeonhole Principle, Permutation and Combination; Mathematical Induction, Principle of Inclusion and Exclusion

Recurrences
Recurrence Relations, Substitution Method, Recurrence Trees, Master Theorem.

Graph Theory
Basic Terminology, Models and Types, multigraphs and weighted graphs, Graph Representation, Graph Isomorphism, Connectivity, Euler and Hamiltonian Paths and Circuits, Planar Graphs, Graph Coloring, Trees, Basic Terminology and properties of Trees, Introduction to Spanning Trees

Propositional Logic
Logical Connectives, Well-formed Formulas, Tautologies, Equivalences, Inference Theory.

Predicate Logic
Free and Bound Variables, Rule of CP, Indirect Method of Proof.

3. ENGLISH COMMUNICATION (AECC-I)

Programme: BCA (I Semester)  
Credits: 2  
Paper Type: Theory  
Lectures/Semester: 30  
Lectures/Week: 3 (3 Lectures)

1. SYLLABUS

1. Introduction
Definition  
Nature  
Process  
Theory of Communication  
Modes of Communication

2. Language of Communication:
Types- Verbal and Non-verbal  
(Spoken and Written)  
Personal, Social and Business
Barriers and Strategies
Intra-personal, Inter-personal and Group communication

3. Speaking Skills:
- Monologue
- Dialogue
- Group Discussion
- Effective Communication/ Mis- Communication
- Interview
- Public Speech

4. Reading and Understanding
- Close Reading
- Comprehension
- Summary Paraphrasing
- Analysis and Interpretation
- Translation (from Indian language to English and vice-versa)
- Literary/Knowledge Texts

5. Writing Skills
- Documenting
- Report Writing
- Making notes
- Letter writing

4. MATHEMATICS (GE-I)

**Programme:** BCA (I Semester)
**Credits:** 6
**Paper Type:** Theory
**Lectures/Semester:** 45
**Lectures/Week:** 4 (3 Lectures + 1 Tutorial)

1. SYLLABUS

**Differential Calculus**
Successive differentiation, formulae for the nth derivative of some standard function. Leibnitz’s theorem, nth derivative of some rational function, Expansion of functions. Taylor’s infinite series, Maclaurins’ series, Use of Taylors’ and Maclaurins’ series. Partial differentiation, Euler’s theorem on homogeneous functions.
Tangent and normal, their equations in the Cartesian form, parametric form. Tangent at the origin. To find the angle of intersection between two curves. Cartesian tangent, normal subnormal and their values in the Cartesian form. Polar coordinates and tracing of curves in polar coordinates.

**Integral Calculus**
Integration of rational and irrational functions. By Partial fraction, by transformation in to standard form, by substitution and by parts etc.

**Differential Equation:**
First degree and first order Differential equation : Higher order differential equation with constant coefficients. Linear partial differential equation of first order P.D.E. of higher with constant coefficients.

**Vectors**
Scalar and vector function, scalar and vector product, vector operators: gradient, divergent and curl, Differentiation of vector function.

**Coordinate Geometry of Two Dimension**
Change of rectangular axes, changing of the origin without changing the direction of axes, change of the direction of the axes, without changing the origin.

**Real Analysis**
Axioms of the real number system, set of natural numbers, set of integers, set of rational numbers- their structure, order relation and simple algebraic operation on them Bounds, closed, open and compact sets.

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**SYLLABUS OF 2ND SEMESTER**

1. PROGRAMMING USING JAVA (C-III (A))

**Programme:** BCA (II Semester)
**Credits:** 4
**Lectures/Semester:** 45
**Lectures/Week:** 4 Lectures (3 Lectures + 1 Tutorial)

1. **SYLLABUS**

**Introduction to Java**
Features of Java, Java Program Structure, Understanding the semantic and syntax differences between C++ and Java, Java Tokens, Java Virtual Machine (Bytecodes), Compiling and Executing a Java Program, Variables, Constants, Data Types, Scope of Variables, Type Casting, Operators, Expressions, Decision Making and Branching, Looping (While, Do, For, Jumps in Loops, Labelled Loops).

**Arrays, Strings and I/O**
Creating & Using Arrays (One Dimension and Multi-dimensional), Referencing Arrays Dynamically, Java Strings: The Java String class, Methods of String class, Manipulating Strings, String Buffer Classes, Methods of String Buffer class, String Tokenizer class, the Scanner class.

**Classes, Objects and Methods**
Class, Object, Constructors, Method Overloading, Inheritance, Method Overriding, This and Super, Final Variables and Methods, Final Classes, Finalize method, Abstract Methods and Classes, Visibility Control

**Interfaces and Packages**
Defining, Extending and Implementing Interfaces, Java API packages, Using Standard Java Packages (util, lang, io, net), Creating a package, Accessing and using a Package.

**Multithreading and Exception Handling**
Creating Threads, Extending the Thread Class, Stopping and Blocking a Thread, Life Cycle of a Thread, Thread Priority, Thread Synchronization, Runnable Interface Types of Errors, Exceptions, Built-in exceptions, Exception handling code (Try, Catch and Finally), Throwing our own Exception.

**Applets and AWT Programming**
Applet: Java Applets, Applet Life Cycle, Passing Parameters to Applets, Applet Tag, Embedding applets to HTML file, Running the applet

AWT (Abstract Window Toolkit): Introduction to AWT, Graphics classes and its methods, Drawing Lines, rectangles, circles, ellipses and arcs using Graphics Class, Color class, ActionListener, ItemListener, KeyListener and MouseListener Interfaces, Container Class, Button, Label, Checkbox, Radio Buttons, List Box, Choice Box, Text Area, BorderLayout and Grid Layout

Swing: Introduction to Swing, Difference between AWT and Swing, Basics of JOptionPane, JApplet, JButton, JFrame, under javax.swing package

**2. DATA STRUCTURE (C-IV (A))**

Programme: BCA (II Semester)
Credits: 4
Lectures/Semester: 45
Lectures/Week: 4 Lectures (3 Lectures + 1 Tutorial)

1. SYLLABUS

**Introduction and Arrays**
Basic Terminology, Elementary Data Organization, Algorithm, Efficiency of an algorithm, Time and Space Complexity, Array, Definition, Single and Multidimensional Arrays, Memory Representation of Multi-dimensional Arrays: Row Major Order and Column Major Order.

**Linked lists**
Stacks

Queues
Operations on Queue: Create, Add, Delete, Full and Empty, Circular Queues, Array and linked implementation of Queues in C, De-queue and Priority Queue.

Recursion
Principles of Recursion, Recursive Definition of Simple Problems and their Implementation, Type of Recursion, Tower of Hanoi Problem, Tail-Recursion, Limitations of Recursion, Recursion versus Iteration.

Trees

Searching and Sorting
Sequential Search, Binary Search, Comparison of Linear Search and Binary Search, Bubble Sort, Selection Sort, Insertion Sort, Shell Sort, Hashing: Perfect Hash Function, Type of Hash Function.

3. ENVIRONMENTAL SCIENCE (AECC –II)

Programme: BCA (II Semester)
Credits: 4
Lectures/Semester: 45
Lectures/Week: 4 Lectures (3 Lectures + 1 Tutorial)

1. SYLLABUS

Introduction to environmental studies
Multidisciplinary nature of environmental studies; Scope and importance; Concept of sustainability and sustainable development.

Ecosystems
What is an ecosystem? Structure and function of ecosystem; Energy flow in an ecosystem: food chains, food webs and ecological succession. Case studies of the following ecosystems: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
Natural Resources: Renewable and Non-renewable Resources
Land resources and landuse change; Land degradation, soil erosion and desertification; Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations; Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state); Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

Biodiversity and Conservation
Levels of biological diversity: genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots, India as a mega-biodiversity nation; Endangered and endemic species of India; Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity; Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Environmental Pollution
Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution; Nuclear hazards and human health risks; Solid waste management: Control measures of urban and industrial waste; Pollution case studies.

Environmental Policies & Practices
Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture; Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD); Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

Human Communities and the Environment
Human population growth: Impacts on environment, human health and welfare; Resettlement and rehabilitation of project affected persons; case studies; Disaster management: floods, earthquake, cyclones and landslides; Environmental movements: Chipko, Silent valley, Bishnois of Rajasthan; Environmental ethics: Role of Indian and other religions and cultures in environmental conservation; Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).

Field work
Visit to an area to document environmental assets: river/forest/flora/fauna, etc.; Visit to a local polluted site: Urban/Rural/Industrial/Agricultural; Study of common plants, insects, birds and basic principles of identification; Study of simple ecosystems: pond, river, Delhi Ridge, etc.

4. MATHEMATICS (GE-II)
Programme: BCA (II Semester)
Credits: 4
Lectures/Semester: 45
Lectures/Week: 4 Lectures (3 Lectures + 1 Tutorial)

1. SYLLABUS

Abstract Algebra
Group, Subgroups, Ring, Integral Domain, Field and Introduction of Boolean Algebra.

Linear Algebra
Spaces and Subspaces, Basic and Dimension of Vector Spaces, Linear Transformation, Their Nullity and Rank.

Matrix Algebra

Analytical Geometry Of 3-Dimensions:
Rectangular, Spherical, polar and Cylindrical Coordinates, Direction Cosines, Planes, Straight Lines, Shortest Distance Between Two Skew Lines, Sphere.

SYLLABUS OF 3rd SEMESTER

1. Computer System Architecture (C-V (A))

Programme: BCA (III Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures + 1 Tutorial)

1. Syllabus

Introduction
Basics of computer- Definition, Characteristics, Classification, Parts and block diagram of a digital computer Logic gates- Types of logic gates, basic logic operations, truth tables, Boolean algebra, simplification of Boolean expression by applying Boolean Theorem and Karnaugh Map(K-Map up to 4 variables), Sum of products, product of sums and canonical forms.

Data Representation and Basic Computer Arithmetic
Number System – Different types of number systems (i.e. Decimal, binary, octal, hexadecimal), conversion of numbers from one Number system to the other, binary arithmetic, (r-1)’s & r’s complement representation, subtraction using r’s and (r-1)’s complement, signed and unsigned numbers, Fixed and Floating point representation of numbers. Code Conversion- BCD(Binary Coded Decimal), Gray Code and ASCII, BCD-to-Binary Conversion, Binary-to-Gray conversion, Gray-to-Binary conversion, Error detection and Correction codes (Parity method for error detection and Hamming error detection code).

Basic Computer Organization and Design
Combinational Circuit – Half Adder, Full Adder, Multiplexer(4X1, 8X1), Demultiplexer (1X4), Encoder(Octal to Binary Encoder, Decimal to BCD Encoder), Decoder(3X8 Decoder, BCD to Decimal Decoder). Sequential Circuits- Flip flops(SR, D, JK, T, Master Slave), Registers (Registers with parallel load, Shift Registers), Counters( Synchronous and Asynchronous Counters), Structure of a digital machine (VON-Neumann architecture).

Central Processing Unit
Microprocessors – Definition, Features and Architecture of 8085 microprocessor, Register organization Timing and control unit of 8085, Pin diagram of 8085, Addressing modes of 8085, DMA (Direct Memory Access) Instruction set – Instruction formats, Classification of 8085 instructions (Data Transfer, Arithmetic, logical and Branch instructions), Types of instructions (Three address, two address, one address and zero address).

Memory Organization

2. OPERATING SYSTEM (C-VI (A))

Programme: BCA (III Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures + 1 Tutorial)

1. SYLLABUS

Introduction to Operating System
Operating System Structure

Process

CPU Scheduling
CPU scheduling (CPU-I/O Burst Cycle, CPU Scheduler, Types of Scheduling (Pre-emptive and Non-Pre-Emptive Scheduling and Dispatcher), Scheduling Criteria (CPU Utilization, Throughput, Turnaround Time, Waiting Time and Response Time), Scheduling Algorithms (First Come First Served Scheduling, Shortest Job First Scheduling, Priority Scheduling, Round Robin Scheduling, Multi Level Queue Scheduling, Multi Level Feedback Queue Scheduling).

Deadlock
The deadlock problem, Deadlock characterization, Deadlock prevention, Deadlock avoidance, Deadlock detection, Recovery from deadlock.

Memory
Memory Management (Address Binding (Compile Time, Load Time and Execution Time), Dynamic Loading, Dynamic Linking and Overlays), Comparison between Logical and Physical Address Space, Swapping, Contiguous Allocation (Single Partition Allocation, Multiple Partition Allocation and External and Internal Fragmentation), Paging (Idea of Paging, Page Table Structure, Multi Level Paging, Inverted Page Table and Shared Pages), Segmentation (idea of Segmentation, Hardware Support, Implementation of Segment Tables, Protection and Sharing and Fragmentation). Virtual memory (Idea of Virtual Memory, Demand Paging, Page Replacement, Page Replacement Algorithms (First In First Out Algorithm and Least Recently Used Algorithm). Thrashing.

File

3. COMPUTER NETWORK (C-VII(A))

Programme: BCA (III Semester)
Credits: 4
1. SYLLABUS

**Introduction to Computer Networks**

**Data Transmission**
Theoretical basis for communication, Transmission impairments: Attenuation distortion, Delay distortion, Dispersion, Noise: Data transmission modes: Serial & Parallel, Simplex, Half duplex & full duplex, Synchronous & Asynchronous transmission, Circuit Switching, Datagram Switching, Routing Tables, Comparison between Connection Oriented and Connection less transmission.

**Transmission Media and Signal Encoding Schemes**

**Data Link Layer Functions and Protocol**
Errors in communication, Types of Errors, Error detection and correction, Parity Check, Hamming distance, CRC, Checksum, Flow and Error Control, Noiseless Channels: Simplest Protocol, Stop and Wait Protocol, Noisy Channels, HDLC.

**Multiple Access Protocol and Networks**
ALOHA Network, CSMA, CSMA with Collision Detection and with Collision Avoidance (CSMA/CD, CSMA/CA), Channelization and Framing Concepts, Code Division Multiple Access(CDMA), Introduction to networking security.

**Networks Layer Functions and Protocols**

The previous syllabus is arranged and segmented into different modules which are shown in the present syllabus.
4. HTML (SEC-I (A))

Programme: BCA (III Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 15
Lectures/Week: 2

1. SYLLABUS

Introduction
What is HTML, HTML documents, Basic structure of an HTML document, creating an HTML document, Mark up Tags, Heading-Paragraphs, Line breaks

The Basics
The Head, The Body, Colors, Attributes, Lists- ordered and unordered

Links
Introduction, Relative links, Absolute links, Link Attributes, Using the ID attribute to link within a document

Images
Putting an image on a page, using images as links, putting an image in the background

Tables
Creating a table, Table headers, Captions, Spanning multiple columns, styling table

Forms
Basic input and attributes, other kinds of inputs, styling forms with CSS, where to go from here

5. STATISTICS (GE-III)

Programme: BCA (III Semester)
Credits: 6
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures + 1 Tutorial)

Probability:
Introduction, Events & Different Types of Events, Addition & Multiplication Law, Conditional Probability, Bay's Theorem.

Probability Distribution:
Statistics:
Definition, Function & Scope of Statistics.

Measures of Central Tendency:
Arithmetic Mean, Weighted A.M., Median, Mode, Geometric & Harmonic Mean and Their Merits & Demerits.

Measures of Variation:
Range, The Interquartile Range or Quartile Deviation, Average (Mean), Deviation Standard Deviation, Coefficient of Variation, Skew ness, Moments & Kurtosis.

Correlation Analysis:

Sampling Distribution:
Chi Square (X2) Distribution and Its Properties, Chi - Square Test, Application of Chi -Square Distribution:
Chi-Square Test for Population Variance, Chi-Square Test of Goodness of Fit, Independence of Attributes, T- Distribution & Its Properties, Application of T - Distribution to Testing Hypothesis About Population Mean, Difference Between Two Means, Correlation Coefficient, F-Distribution.
### Semester wise Subjects Distribution
of MCA: 2017

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<td>MCA/CT/209</td>
<td>Data Communication and Computer Networks</td>
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<td>MCA/CT/210</td>
<td>System Analysis and Design</td>
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<td>Basic Mathematics for Computers</td>
<td>MCA/CT/212</td>
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<td>MCA/CT/213</td>
<td>Object Oriented Programming with ‘C++’</td>
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<td>Elective 3 (Compiler Design)</td>
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SYLLABUS OF MASTER OF COMPUTER APPLICATION (MCA)

SYLLABUS OF 1ST SEMESTER

1. COMPUTER ORGANIZATION AND ARCHITECTURE
(MCA/CT/101)

Programme: MCA (I Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures + 1 Tutorial)

1. SYLLABUS

Number Systems and Code Conversion
Decimal Numbers, Binary Numbers, Octal Numbers, Hexadecimal Numbers, BCD-to-Binary Conversion, Binary-to-Gray, Gray-to-Binary, conversion of numbers from one Number system to the other, Complements: r’s and (r-1)’s Complement representation, Subtraction using r’s and (r-1)’s Complements

Boolean Algebra

Digital Logic Circuit
Digital Computers, Logic gates, Types of logic gates, basic logic operations, truth tables, Combinational Circuit:- Half Adder, Full Adder, Multiplexer, De-Multiplexer, Decoder, Encoder, Sequential Circuit:- Flip-Flop: SR, D, JK, T, Master-Slave, Register: Register with parallel Load, Shift-Register, Counter: Synchronous Counter and Asynchronous (Ripple) Counter.

Memory Organization

Central-Processing Unit
General Register Organization, Instruction Format: 0-Address, 1-Address, 2-Address, 3-Address, Addressing Modes, Classification of Instruction: Data Transfer Instruction, Data Manipulation Instruction, Program Control Instruction, Status Register, Computer Arithmetic: Addition & Subtraction Algorithm, Multiplication Algorithm (shift and add), Booth Algorithm, Division Algorithm, BCD Adder, Parallel Processing: Flynn’s classification for parallel
computing, Pipelining:- Concept of pipelining, Instruction Pipelining, RISC versus CISC characteristics, INTEL 8086 Microprocessor:- Features and Architecture of 8086 microprocessor, Operating Modes of 8086, Register Organization, Pin Configuration of 8086, Operating Principle, Memory Organization of 8086.

Error Detection and Correction
Error-Detection Code, Parity Bit, Hamming Error-Correction Code, Detecting and Correcting an Error.

2. BUSINESS MANAGEMENT (MCA/CT/102)

Programme: MCA (I Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

Basics of Management: Planning, Organizing, Staffing, Directing, Controlling.

Fundamentals of Managerial economics and financial management, Productivity management.

Human Resource Development and Management: Selection, training and role of IT. Introduction to management control system. Performance measures.


3. COMPUTER PROGRAMMING WITH C (MCA/CT/103)

Programme: MCA (I Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

Introduction to C
Introduction to computer programming. Basic structure of a C program. Writing a C program. The compilation and execution process of C program. Building Blocks of C Programs (Keywords, Identifiers, Constants, String, Special Symbols, and Operators).

Data Types, Variables, Constants, Operators and Basic I/O
Data Types in C. Variables, Modifiers, Escape Sequences, Expressions and Operators
(Arithmetic, Logical, Assignment, Relational, Bitwise, Special Operators) Un Formatted
Input(Reading of single character using the functions getc() and getchar() ) and
Output(Writing of single character using the functions putc() and putchar() ). Formatted
Input(Reading of different data type values using the function scanf() ) and
Output(Writing of different data type values using the function printf() ).

Expressions, Conditional Statements and Iterative Statements
Expressions, conditional statements and iterative statements. Decision Making and Branching
using (Unconditional Branching using goto and Conditional: Two Way Branching using if,
if-else, nested if, it-else if ladder and Multi Way Branching using Switch Case). Decision
Making and Looping using while(), do-while() and for() Looping construct.

Functions and Arrays
Type of parameters (to be passed) to a function. Function with variable arguments. Array and its
utility. Creating and using one / multi dimensional array of primitive data types (character,
integer and floating point). Initialization of array elements (static and dynamic initialization).

Pointers and References in C
Pointer and its utility. Declaration of pointer and dereferencing pointer to primitive type
variables. Pointer to pointer. Pointer and structure. Pointer and union. Passing pointer as
argument to a function. Returning pointer from function. Passing array as argument to a function.

Derived Data Types (Structures and Unions)
Limitation of array. Need of derived data types (structure and union). Basic difference between
implementation of structure and union. Declaration of structure and union. Accessing data
members of structure and union. Initialization of data members of structure and union. Passing
and returning structure to / from the function. Nesting of structure. Structure with union as a
member. Union with structure as a member.

Dynamic Memory Allocation in C
Differentiating between static and dynamic memory allocation, use of malloc(), calloc() and
free() functions, storage of variables in static and dynamic memory allocation.

The previous syllabus is elaborated into present syllabus by detailing the topics. The previous syllabus is given
below:

I. Overview of C. Constants, variables & data types.
II. Operators and expressions.
III. Managing input and output operators.
IV. Decision–making and branching Looping. Arrays handling of character Strings.
V. User-defined functions. Structures and unions. Pointers, file management in C.
VI. Dynamic memory allocations in relation to array (Use malloc(), calloc(), realloc() and free()).
VII. Overview of Pre-processor statements.
VIII. Program through Command Line Arguments.
4. BASIC MATHEMATICS FOR COMPUTERS (MCA/CT/104)

Programme: MCA (Semester- I)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

Set theory, Relations and Functions, Type of Relations and Functions, Equivalence relations and Partitions, Matrix of the Relation.

Partially Order Set, Lattice, Principle of duality, different type of lattices.

Boolean algebra, Boolean Functions, Various Normal Forms.


Graph theory: Graph, Sub Graph, Isomorphism and Degrees, Walks and Connected Graphs, Cycles in Graphs Cut Vertices and Cut Edges. Trees, Spanning trees, Binary Trees, matrices and Vector spaces associated with Graphs.

Algebraic structures, Groups Application of Residue Arithmetic to Computer, Group Codes. Fuzzy Sets and their Basic Properties

5. BUSINESS ENGLISH AND COMMUNICATION (MCA/CT/105)

Programme: MCA (Semester- I)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS


Types of Communication – Formal and Informal, Channels of Communication, Barriers in Communication – Physical, Psychological, Linguistic and Cultural, Sender-oriented and
Receiver-oriented Barriers, Improving listening and speaking skills – 10 Commandments of Good Speaking and Good Listening.


Presentation Skills, Non-verbal Communication – Body Language, Space, Tone, Posture, Gesture, Eye Contact, Multicultural Communication.

**SYLLABUS OF 2nd SEMESTER**

1. **COMPUTER ORGANIZATION AND ARCHITECTURE**  
   (MCA/CT/209)

**Programme:** MCA (II Semester)  
**Credits:** 4  
**Paper Type:** Theory  
**Lectures/Semester:** 45  
**Lectures/Week:** 4 (3 Lectures+ 1 Tutorial)

1. **SYLLABUS**

**Introduction to computer network**

Topologies: STAR, BUS, RING, MESH, TREE & HYBRID Topologies, Base Band & Broad Band Communication, Guided & Unguided Transmission Media: Types of Guided and Unguided Media an Comparison, Overview of Data & Signal Bits, Baud Rate & Bit Rate, Modulation Techniques (AMPLITUDE MODULATION, PHASE MODULATION, FREQUENCY MODULATION), Multiplexing (TDM, FDM, STDM), Line coding (RZ, NRZ, MANCHESTER ENCODING, DIFFERENTIAL MANCHESTER ENCODING), Digital To Analog CONVERSION - ASK, PSK, FSK, QPSK.

**Transmission methods**


**LAN Topology**

Ethernet, Token Bus, Token Ring (IEEE 802.5), Introduction to WAN & MAN, DQDM and FDDI. Switching Technologies- Circuit Switching, Message Switching and packet Switching. X.25, channelization and frames concepts, ISDN: International standards NTI, NT2, TA TE devices. Introduction to leased lines, DSL, Bridging &Routing: Types of Routing, static &
Dynamic Routing, IP addressing concepts: IPV4 & IPV6, ICMP, Arp, Rarp, Congestion Control, Introduction to data security and Cryptography, private key, public key, ISO standards, introduction to Mobile technology (Topology, FDM, TDM, CDMA) satellite communication (LEO, GEO, TDM).

2. COMPUTER ORGANIZATION AND ARCHITECTURE (MCA/CT/210)

Programme: MCA (II Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

Overview of system analysis and design
Development life cycle. Requirements determination, Logical design, Physical design, Program design, Risk and feasibility analysis, SRS prototyping.

Information requirement analysis
Process modeling with physical and logical dataflow diagrams, Data modeling with entity relationship diagrams, Addition modeling method, developing proposal: feasibility studies, cost benefit analysis. System design: Process descriptions, Input/output controls, object modeling, database design.

User Interface design, Documentation. Introduction to project management, scheduling, measurement of quality and productivity, ISO and capability maturity models, Strategic planning, system audit. Quality assurance: reviews, walkthroughs, and inspection.

3. DATA STRUCTURE USING ‘C’ (MCA/CT/211)

Programme: MCA (II Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

Algorithm concepts, Complexity of algorithm
Introduction and basics, Asymptotic Notation, Space-trade off, Array-Row/Column major representation, Sparse Matrix.
Linked List
Singly, Doubly & Circular, Stack, Queue, Conversion from infix to postfix, Evaluation of postfix expression, Evaluation of prefix expression, Circular Queue, Priority Queue, Double-Ended Queue.

Tree
definition, Traversal algorithms, Threaded Binary Tree, Binary Search Tree, AVL-Tree, B-tree, Huffman algorithm, Recursion Technique.

Sorting and searching with complexity analysis
Insertion sort, bubble sort, selection sort, quick sort, merge, Heap Sort, Radix Sort, Shell Sort, Linear search & Binary search.

Hashing

4. DATABASE MANAGEMENT SYSTEM I (MCA/CT/212)

Programme: MCA (II Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (4 Lectures+ 1 Tutorial)

1. SYLLABUS

Introduction to DBMS
Three level Architecture, Administrative Roles, Data Dictionary, Traditional Model, Hierarchical Model, Network Model and Relational Model.

Relational Model
Definitions and Properties, Keys, Integrity Rules, Entity Integrity, Referential Integrity, Relational Algebra, Joins, Operators, Unary, Binary, Set-Operations, Relational Calculus, Tuple Relational Calculus (TRC) and Domain Relational Calculus (DRC), SQL constructs/Blocks and Objects.

Database Design
ER Model, Functional dependency and decomposition: functional dependency, full functional dependency, lossy and lossless joins decomposition. Normalization: database keys (super, candidate, primary, alternate), Normal forms (1NF, 2NF, 3NF, BCNF, 4NF, 5NF), Multivalued dependencies and join dependencies.
Indexing and Query
Indexing, Primary, Secondary, Multi Level, Query and its Optimization Techniques

5. OBJECT-ORIENTED PROGRAMMING USING C++ (MCA/CT/213)

Programme: MCA (II Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (4 Lectures+ 1 Tutorial)

I. SYLLABUS

I. Object Oriented Programming and Software Design

II. Class and Object
Abstraction and Abstract Data Type. Class, members and access control. Member Function, Constructor, its types and Destructor. Objects, instantiation and accessing members.

III. Inheritance, Polymorphism, Pointers and Virtual Functions

IV. File Handling

V. Exception and Template
Exception. Function Template. Class Template

SYLLABUS OF 3rd SEMESTER

1. OPERATING SYSTEM AND SYSTEM SOFTWARE (MCA/CT/317)

Programme: MCA (III Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures + 1 Tutorial)

1. SYLLABUS

Importance of OS, Basic concepts and terminology, types of OS, different views, journey of a command execution, design and implementation of OS Process: Concept and views, OS view of processes, OS services for process, management, scheduling algorithms, performance evaluation

Inter process communication and synchronization, mutual exclusion, semaphores, hardware support for mutual exclusion, queuing implementation of semaphores, classical problem for concurrent programming, critical region and conditional critical region, monitors, messages, deadlocks.

Resource manager, file management, processor management, device management, Memory Management - paging, swapping, page replacement algorithm, design issues for paging system, segmentation, Scheduling algorithm and performance evaluation.

Security and protection, policies and mechanism, authentication, protection and access control, formal models of protection, cryptography, worms and viruses. Inter-process communication & synchronization, File systems, security and protection mechanism, Input/output systems, processes and processors in distributed system. Performance measurement, monitoring and evaluation. Multiprocessor system, classification and types, OS function and requirements.

Introduction to parallel computing, multiprocessor interconnection synchronization. Distributes OS - rationales, algorithms for distributed processing. Introduction to compilers, Assemblers, loaders and linkers, Introduction to OS, OS services and Kernel, Multiprogramming and time sharing Processor Scheduling. Performance measurement and monitoring - measures, evaluation techniques, bottlenecks and saturation, feedback loops. Introduction to UNIX OS.

2. UNIX AND SHELL PROGRAMMING (MCA/CT/318)

Programme: MCA (III Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures + 1 Tutorial)

1. SYLLABUS

Overview of the UNIX Operating System, General purpose Utilities Command.
Vi editor, advance Vi Editor, Shell commands & Shell Programming (Bourne Shell).

Simple filters and grep Command, File System & Handling Ordinary Files, Basic & more File attributes.

Concept of I –Node, Overview of Process, Overview of Sed & awk.

Overview of TCP/IP networking- Basic Concept of 4 Layers, Network Class, Basic Concept of the Applications, Subnet.

3. ARTIFICIAL INTELLIGENCE (MCA/CT/319)

**Programme:** MCA (III Semester)

**Credits:** 4

**Paper Type:** Theory

**Lectures/Semester:** 45

**Lectures/Week:** 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

What is Artificial Intelligence? The AI problems, the underlying assumptions, what is an AI technique? Problems, Problem Spaces and search, defining the problem as a State Space Search, Production Systems, Problem characteristics, Production system characteristics, Issues in the design of search programs, Tic-Tae-Toe problem. Heuristic Search Technique, Generate and Test, Hill climbing, Best-First search, Problem reduction, constraint Satisfaction, Means ends Analysis.


4. STATISTICS AND NUMERICAL TECHNIQUES (MCA/CT/320)

Programme: MCA (III Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

Sources of data (Primary & Secondary), Sampling. Basic Statistics - measure of central tendency, dispersion, Probability, distribution. Introduction to mass function, density function, distribution function (Binomial, Poisson, Normal), estimation of parameters (unbiasedness-concept of noise/error, consistency).

Interpolation - Newtons Forward, Backward, Sterling and Bessel’s Interpolation formula, Lagranges Interpolation. Inverse Interpolation.

Integration - Trapezoidal, Simpson’s 1/3 rd, Weddle’s Rule, Romberg Integration, Gauss Legendre two & three point formula, Newton Cotes Formula, Gram-Schmidt orthogonalisation, Tchebycheff polynomial.


5. ACCOUNTANCY AND FINANCIAL MANAGEMENT (MCA/CT/321)

Programme: MCA (III Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (3 Lectures+ 1 Tutorial)

1. SYLLABUS

Fundamentals of Accounting


Financial and investment analysis, Ratio analysis, Budgeting and Budgetary control, Variance Analysis.


SYLLABUS OF 4th SEMESTER

1. SOFTWARE ENGINEERING (MCA/CT/425)

Programme: MCA-LATERAL (IV Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (4 Lectures+ 1 Tutorial)

1. SYLLABUS

Introduction to SE

Software Metrics
Definitions, Types of S/W metrics, products and processes S/W size and effort estimations: LOC, KLOC etc. Function point estimations COCOMO: basic, intermediate, detailed modes for organic, semidetached and embedded S/W.

Software Requirements Analysis and Specification
Requirement engineering, requirement elicitation, DFD, ER diagrams, Charts, requirement analysis, requirement documentations.

Software Design
Definitions, concepts and principles of S/W design, Structured design: modularity, coupling, cohesion, OO design principles.

S/W Testing
Objective, principles, types of S/W testing S/w quality assurance: concepts of S/W quality, S/W reliability, S/W safety

2. DATA ANALYTICS (MCA/CT/426)

Programme: MCA (IV Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (4 Lectures+ 1 Tutorial)

1. SYLLABUS

Basics of Mathematics and Statistics
Introduction to the course, Descriptive Statistics, Introduction to probability and probability distributions (discrete and continuous), Inferential Statistics through hypothesis tests

Machine Learning: Introduction and Concepts
Introduction to machine learning, Regression: Linear Regression, Logistic Regression, Ridge Regression, Lasso Regression, KNN (K-Nearest Neighbors)

Basic & Advanced machine learning tools
Decision Trees, K-Means, Naïve Bayes, Random Forests, Neural Networks, Dimensionality Reduction Techniques, Support Vector Machines, Clustering, Statistical mixture models

“Data Analytics” paper has been selected by replacing “Graphics and Multimedia” by keeping in view of the recent trends in market as well as in research fields.

3. DATABASE MANAGEMENT SYSTEM – II (MCA/CT/427)

Programme: MCA (IV Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 (4 Lectures+ 1 Tutorial)

1. SYLLABUS

Transaction Processing Concepts
Transaction, Transaction execution, transaction processing and transaction properties, Concurrency control: Concurrency control, problems of concurrency control i.e., Lost update, dirty read (uncommitted data), unrepeatable (read), schedules, Lock types i.e. Shared, exclusive, two phase (2PL)), dead-locks, timestamp, methods.
**Database Security (DS)**
Goals of DS, Threats to DS, Authorization and authentication, data security issues, discretionary Access control (i.e. granting / revoking privileges, Audit trails).

**Database recovery system**
Database Backup, and Types of DB failures, types of Database recovery i.e. Forward and backward, recovery, Recovery technique i.e. Deferred update, immediate update and checkpoints.

**Object oriented databases**
Object oriented data model, concepts of object oriented databases (i.e. Objects, classes, polymorphism), Object Oriented DBMS i.e. OODBMS (Features, advantages and disadvantages).

**Parallel Database System:** Advantages, disadvantages and architecture of Parallel DBS.

**PL/SQL**
Basics of PL/SQL, Cursors, Triggers, Procedures and Functions.

**Decision Support System (DSS):** Evolution of DSS, Definition of DSS, Characteristics of DSS, Benefits of DSS, Components of DSS.

**Data Warehousing**
Evolution, Components, Characteristics, Benefits, Limitation, Architecture of Data Warehouses(Data marts and Online Analytical Processing(OLAP)).

**Data Mining**
Data Mining Process, Data Mining Knowledge discovery, Goals of Data Mining, Data Mining Tools, Data Mining Application.

### 4. OPERATION RESEARCH AND OPTIMIZATION TECHNIQUES (MCA/CT/428)

**Programme:** MCA (IV Semester)
**Credits:** 4
**Paper Type:** Theory
**Lectures/Semester:** 45
**Lectures/Week:** 4 (4 Lectures+ 1 Tutorial)

**1. SYLLABUS**

**Linear Programming Problem**

Transportation Problem

Game Theory
Two Person Zero Sum, Maximin-Minimax Principle, Games with Saddle Point, Games without Saddle Point Mixed Strategies: 2x2 Games without Saddle Point, Graphical Method for 2xn or mx2 Games, Dominance Property, Sequencing Theory: N jobs through Two Machines, N jobs through three machines.

Inventory Control
Determination of EOQ, Components, Deterministic Inventory Model: - Purchasing Problem without Shortage, Purchasing problem with shortage, production problem without shortage, production problem with shortage. Queuing Theory: Basic Structure, Exponential distribution, Birth and Death model, M/M/I.

Network Optimization Mode

5. PROGRAMMING IN JAVA (MCA/CT/429)

Programme: MCA-LATERAL (IV Semester)
Credits: 4
Paper Type: Theory
Lectures/Semester: 45
Lectures/Week: 4 Lectures

1. SYLLABUS

Introduction to Java
Features of Java, Java Program Structure, Understanding the semantic and syntax differences between C++ and Java, Java Tokens, Java Virtual Machine (Bytecodes), Compiling and Executing a Java Program, Variables, Constants, Data Types, Scope of Variables, Type Casting, Operators, Expressions, Decision Making and Branching, Loopping (While, Do, For, Jumps in Loops, Labelled Loops).

Arrays, Strings and I/O
Creating & Using Arrays (One Dimension and Multi-dimensional), Referencing Arrays Dynamically, Java Strings: The Java String class, Methods of String class, Manipulating Strings, String Buffer Classes, Methods of String Buffer class, String Tokenizer class, the Scanner class.

Classes, Objects and Methods
Class, Object, Constructors, Method Overloading, Inheritance, Method Overriding, This and Super, Final Variables and Methods, Final Classes, Finalize method, Abstract Methods and Classes, Visibility Control

Interfaces and Packages
Defining, Extending and Implementing Interfaces, Java API packages, Using Standard Java Packages (util, lang, io, net), Creating a package, Accessing and using a Package.

Multithreading and Exception Handling
Creating Threads, Extending the Thread Class, Stopping and Blocking a Thread, Life Cycle of a Thread, Thread Priority, Thread Synchronization, Runnable Interface Types of Errors, Exceptions, Built-in exceptions, Exception handling code (Try, Catch and Finally), Throwing our own Exception.

Applets and AWT Programming
Applet: Java Applets, Applet Life Cycle, Passing Parameters to Applets, Applet Tag, Embedding applets to HTML file, Running the applet

AWT (Abstract Window Toolkit)
Introduction to AWT, Graphics classes and its methods, Drawing Lines, rectangles, circles, ellipses and arcs using Graphics Class, Color class, ActionListener, ItemListener, KeyListener and MouseListener Interfaces, Component Class, Container Class, Button, Label, Checkbox, Radio Buttons, List Box, Choice Box, Text Area, Border Layout and Grid Layout

Swing
Introduction to Swing, Difference between AWT and Swing, Basics of JOptionPane, JButton, JFrame, under javax.swing package.

SYLLABUS OF 5th SEMESTER

- The Expert has approved the list of new electives (in addition to the old elective list) which are decided by the faculty members which are listed below:
  - Cryptography + Lab
Cloud Computing
Mobile Computing
Pattern Recognition
Bio Informatics

- For Elective lab the selected papers are
  - Compiler design lab,
  - Cryptography lab
  - Network Programming lab (which include NS2, Opnet)

<table>
<thead>
<tr>
<th>Present Elective List</th>
<th>New Elective List</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theory Papers</strong></td>
<td><strong>Theory Papers</strong></td>
</tr>
<tr>
<td>1. Distributed Database Management System</td>
<td>1. Cryptography</td>
</tr>
<tr>
<td>2. Image Processing</td>
<td>2. Cloud Computing</td>
</tr>
<tr>
<td>4. System Administration and Linux</td>
<td>4. Pattern Recognition</td>
</tr>
<tr>
<td>6. Advanced UNIX Programming</td>
<td></td>
</tr>
<tr>
<td>7. Compiler Design</td>
<td><strong>Laboratory Papers</strong></td>
</tr>
<tr>
<td>8. E-Commerce</td>
<td>1. Compiler design lab</td>
</tr>
<tr>
<td><strong>Laboratory Papers</strong></td>
<td>2. Cryptography lab</td>
</tr>
</tbody>
</table>

The elective papers provided in this year are:
1. Cryptography
2. Mobile Computing
3. Compiler Design
4. E-Commerce
5. Network Programming Lab

1. CRYPTOGRAPHY (MCA/ET/533)

Programme: MCA (V Semester)
Credits: 4
Paper Type: Theory
Lectures/ Semester: 45
Lectures/Week: 4 (4 Lectures + 1 Tutorial)

1. SYLLABUS

Introduction
Basic Objectives of Cryptography, Secret-key and Public-key cryptography, Security Goals and Principles, Cryptographic Attacks, Substitution Ciphers, Transpositions, Stream and Block Ciphers, Algorithm Modes.

**Mathematics of Symmetric Key Cryptography**
Modular Arithmetic, Linear Congruence, GF($2^n$) Fields.

**Symmetric Key Cryptography**

**Mathematics of Asymmetric Key Cryptography**
Primes, Primality Testing, Factorization, Chinese Remainder Theorem.

**Asymmetric Key Cryptography**
Overview, RSA, Cryptographic Hash function: MD5, SHA, MAC, HMAC, Digital Envelope, Digital Signature.

**Entity Authentication and Key Management**
Passwords, Challenge-Response, Zero-Knowledge, Kerberos, PKI.

**Network Security**
Threats in Network, Network Security Controls, Firewalls, Intrusion Detection Systems, Secure E-mail, Malicious Programs.

### 2. MOBILE COMPUTING (MCA/ET/534)

**Programme:** MCA (V Semester)

**Credits:** 4

**Paper Type:** Theory

**Lectures/Semester:** 45

**Lectures/Week:** 4 (4 Lectures + 1 Tutorial)

#### 1. SYLLABUS

**Introduction**

**Mobile internet protocol and transport layer**
Mobile telecommunication system
Global System for Mobile Communication (GSM) – General Packet Radio Service (GPRS) – Universal Mobile Telecommunication System (UMTS).

Mobile ad-hoc networks

Mobile platforms and applications

3. COMPILER DESIGN (MCA/ET/535)

Programme: MCA (V Semester)
Credits: 4
Paper Type: Theory
Lectures/ Semester: 45
Lectures/Week: 4 (4 Lectures + 1 Tutorial)

1. SYLLABUS


4. E-COMMERCE (MCA/ET/536)

Programme: MCA (V Semester)
Credits: 4
Paper Type: Theory
Lectures/ Semester: 45
Lectures/Week: 4 (4 Lectures + 1 Tutorial)
1. SYLLABUS

Introduction to E-Commerce

Technology for Online Business

Electronic Payment Systems (EPS)

5. VALUES AND ETHICS OF PROFESSION (MCA/ET/537) [Compulsory paper]

Programme: MCA (V Semester)
Credits: 4
Paper Type: Theory
Lectures/ Semester: 45
Lectures/Week: 4 (4 Lectures + 1 Tutorial)

1. SYLLABUS


Information Technology Act 2000

- Rationale behind the Act.
- Scheme of the Act.
- Digital signature- Authentication of electronic records.
- Electronic governance- Legal recognition of electronic records and Digital signature
- use of electronic records and Digital signature in govt. and its agencies, Retention of electronic records, publication of rules and regulations in e-gazette, sec 9 and sec 10.
- Attribution, acknowledgement and dispatch of e-records – sec 11, 12, 13.
- Secure electronic records and digital signatures – sec 14, 15, and 16.
- Regulation of certifying authorities –sec 17 to sec 34.
- Digital signature certificates- 35-38.
- Duties of subscribers.
- Penalties and adjudication.
- The Cyber Regulations Appellate Tribunal.
- Offences.
Appendix 5

USHA MARTIN UNIVERSITY

Pre-Ph. D. Course work Syllabus

Usha Martin University (UMU), Ranchi (Jharkhand), recognized under the section 2(f) of the UGC Act of 1956, invited applications from meritorious and innovative candidates from across India for admission to its Full time and Part time M.Phil./Ph.D programs in disciplines of Physics, English, Applied Mathematics, Commerce, Management, and Computer Science. These programs are being conducted strictly as per the provisions and regulations given in the UGC (Minimum Standards and Procedure for Award of M.Phil./Ph.D. Degrees Regulation, 2016) and M.Phil./Ph.D. Degree Regulations of Usha Martin University.

Keeping the importance of research in present scenario in view and to enhance quality, every scholar is required to successfully complete the Course Work as a pre-requisite and master the methodology as well as pedagogy for their respective chosen area of investigation.

As per the University ordinance and UGC guidelines, every research scholar provisionally registered in the Ph. D. Programme has to undergo a Pre-Ph. D Coursework.

Admission to the Programme: As per Usha Martin University Ordinance

Number of Seats: The no. of seats in a discipline will be determined from time to time on the basis of UGC guideline of enrolling a maximum of 4 candidates with an Assistant Professor, 6 candidates with an Associate Professor and 8 candidates with a Professor.

The course aims at developing the following skills:

- investigation
- reasoning
- comprehension
- analysis
- writing
- editing, proof reading and designing
- evaluation
-

Programme Structure

The Pre-Ph.D course work is spread over Two Semesters (i.e. one Year) and comprises four compulsory papers:

<table>
<thead>
<tr>
<th>Semester</th>
<th>Name of Paper</th>
<th>Theory</th>
<th>Practical</th>
<th>Internal Assessment (Assignments, Attendance &amp; Seminar) **</th>
<th>Max Marks</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester I</td>
<td>Paper-I Research Methodology</td>
<td>80</td>
<td>-</td>
<td>20</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>Semester I</td>
<td>Paper II Computers in Research</td>
<td>50</td>
<td>30</td>
<td>20</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>Semester II</td>
<td>Paper-III Research Training (Term Paper)</td>
<td>80</td>
<td>-</td>
<td>20</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>Semester II</td>
<td>Paper-IV Specific area of research</td>
<td>80</td>
<td>-</td>
<td>20</td>
<td>100</td>
<td>4</td>
</tr>
</tbody>
</table>

a. Medium of instruction: English
b. The students shall be evaluated at the end of each semester. Total marks for Semester I are 200 (Paper I- 100 marks, Paper II- 100 marks) and Semester II are 200 (Paper III-100 marks and Paper IV-100 marks). Pass percentage is 50 in each paper. If a student fails to score 50% marks in a course with S/he will be allowed to reappear
only once in the subsequent academic year.

c. The respective supervisors during Semester II will conduct the course in the concerned area of research. Every scholar will in consultation with the supervisor submit a detailed plan and evaluation scheme to the DRC for approval.

d. The faculty teaching the Pre-Ph. D. Courses and the concerned supervisor, will provide the reading list that will vary from topic to topic.

e. Every research scholar will have to make a paper presentation pertaining to his/her progress in Semesters I and II.

f. The final research proposal will be presented before the DRC within the stipulated period as prescribed by the ordinance.

g. Participation in Pre-Ph. D. presentation seminar, Pre-Ph. D. submission presentation, Ph. D. Viva Voce Exam and Seminars conducted by the Department is mandatory.

h. **The minimum attendance required during the Course work period is 70% of the total classes.**

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**SEMESTER I**

**Paper I: Research Methodology**

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**Marks: 100**

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**UNIT 1**

**Introduction:**


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**UNIT 2**

**Qualitative and Quantitative Research:**

Concept & Measurement, Causality, Generalization, Replication, Merging Qualitative and Quantitative Research Methods.

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**UNIT 3**

**Research Design:**

Features of a good Research Design, Exploratory & Research Design – Concept, Types,
Usage, Experimental Design – Causal relationships, Concept of Independent & Dependent variables, Concomitant Variable, Extraneous variable, Treatment, Control group.

UNIT 4

Sampling Design:-

Census and Sample survey, Implication of Sample Design, Sample size determination, Characteristics of a good Sample design.

Sealing Techniques:-


UNIT 5

Data:-

Primary and Secondary data, Tools of data collection, Questionnaire and Schedule distinction, Selection of appropriate method of data Collection, Processing Operations, Problem in Processing, Types of Analysis.

Multivariate Data Analysis:-

Introduction to ANOVA, Discriminate Analysis, Factor Analysis and Clustering Methods, Significance of these tools for Managerial Decision Making.

Medium of instruction and examination: English

Paper II : Computers in Research     Marks: 100

Unit I: Basics of Computer

Unit II: Use of Computer in Research

Unit III: Use of Technology in Research
Unit IV: Familiarisation with Data Analysis Softwares and Techniques
   Use of SPSS
   Use of MATLAB
   Use of Internet
Unit V: Practical Work

Medium of instruction/examination: English

Semester II:

Paper III: Term Paper
Marks: 100

Unit I: Writing a Research Proposal
- Choosing a Topic
- Preparing a Working Bibliography
- Outlining and need to write a Research Paper

Unit II: Investigations in the area of Research
- Text(s)/Research Paper(s)
- Evaluation of Literature
- Critical appreciations or Criticisms
- Presentation of Summary
- Use of available Computer Software’s and tools

Medium of instruction and examination: English

Note: Please note that research students admitted into the Ph. D. programme of the department have to necessarily complete the Pre-Ph. D. Course Work. No concession what so ever is admissible in any category.
Minutes of the Sixth Meeting of the Academic Council of Usha Martin University held on 18.12. 2018

The sixth meeting of the Academic Council of Usha Martin University was held on 18.12. 2018 at 3 pm in the University Campus. The following members were present:

1. Prof. S. C. Garg, Vice Chancellor, UMU – Chair
2. Prof. L. N. Bhagat, Former VC, Ranchi University,
3. Prof. S. Chaudhari, St Xavier College, Ranchi
4. Prof. Madhulika Kaushik, PVC, UMU
5. Dr. Vinay Singh, Associate Prof., UMU
6. Dr. Arvind Hans, Associate Prof., UMU
7. Dr Sarmishta Roy, A.P., UMU
8. Dr. Anupma Verma, AP., UMU
9. Prof. Viplaw K. Pandey, Registrar, Member Secretary

Prof. Vandana Bhattacharya and Dr Abhishek Pandey could not attend the meeting due to prior engagements.

AC.6.1 Welcome and Information Sharing by the Chairman

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf. He expressed his gratefulness particularly to the external members for sparing their valuable time from their busy schedules and giving benefit of their experience and expertise to UMU. He felt assured that with their continued support, UMU would succeed in its mission of providing high quality inclusive education at affordable cost to all in the state of Jharkhand, help reverse the process of brain drain and supplement the efforts of MHRD, Jharkhand in increasing the GER in higher education. Before requesting the Registrar to present the Agenda Items, he informed members that this is third meeting of academic council in this academic session.

Thereafter, he shared various academic developments in the University since the last meeting.

- The Chancellor visited the University on 3.12.18 and interacted with the faculty as well as the students. He was happy to learn that the strength of the University was its dynamic
and highly qualified Faculty, who believed in quality education and devoted themselves with full enthusiasm in academic as well as co-curricular activities.

- The outcomes of placement interviews conducted so far have very encouraging; four of our MBA students have successfully been selected as Branch managers for the Jharkhand zone by Spoorti Spandan, one by Federal bank and another four would like to join their own businesses. The University has constituted Placement Committee with two senior Academic Faculty members, Training and Placement Officer as Member Secretary and the Registrar as Chair. The Committee will discuss and evolve strategies for 100% placements of 4th Semester MBA students and internship of 2nd semester students. All MCA students have been placed for their internships.

- In the last meeting of VCs of private universities with the Secretary, MHRD, Govt. of Jharkhand held on 10th August, 2018, the VC had informed that the University management had signed an agreement for 31.6 acre land in Narayan Soso. The process of getting the land registered in the name of the University, as advised by MHRD, has now been completed and the mutation process is in progress. The ground-breaking ceremony for construction of buildings has as of now been scheduled for 18th January so that we start our 2019 session in our own new campus. We would like all of you to grace the occasion and I request you to please keep this day free for UMU. The exact details shall be communicated in due course.

- As far as diversification of the academic profile of the University is concerned, we propose to add B. Tech (CS, Mining and Mechanical), PhD (Education), legal education (LLB and BBALLB) and a few health and agriculture science programmes to the existing bouquet of 17 programmes at undergraduate, post-graduate and PhD level strictly in compliance with the regulations of national statutory bodies.

- The research scholars who joined in the first cohort appeared in the end of semester examinations on 15th September, whereas classes of the second cohort for course work began in August, 2018 and they are scheduled to appear in end semester examinations in January, 2019. The students of first cohort have recently presented the progress of their work and made presentations with the VC/PVC in the Chair. A research Scholar of Dr Vinay Singh has published his first research paper. On my own behalf and on behalf of the AC, I propose to congratulate the Scholar as well as Dr Singh. To ensure quality and monitor progress of work, the University has made submission of six monthly progress reports mandatory and the same has been duly impressed on all scholars. We would soon constitute doctoral research committees for each student. Since two faculty members
resigned in the beginning of this semester, their students are being reassigned to other teachers.

- The end-semester examinations for all programmes on offer began on 15th December and shall continue till 30th December. The AC had decided that to ensure transparency in conduct of examinations, external observers be appointed for each day of examination. The same has been implemented from this session and names of senior teachers from other HEIs were approved by the VC and one of them is present on each day of examination.

- Some teachers of the University have been approached by other sister organisations in Ranchi to take classes as visiting faculty. The VC had accorded in principle approval, subject to approval by the AC and BOM. It is proposed to draft guidelines for undertaking such assignments.

- **Addition of Core faculty:** Due to increased no. of programmes and specialisations within some programmes, we recruited a few more full time teaching faculty members: Ms Neha Prakash in Commerce, Ms Nitesh Kumar in Economics, Mr Mustafa Khalid in management and Dr Kumari Jyotsna in Mathematics.

As of now, we have 12 full time PhD faculty members at different levels (Professor 1, Associate Professors 3 and Assistant Professors 8). In fact, one AP was recently awarded PhD in Electronics; six in all in this academic year. All other faculty members are enrolled in PhD programme of BIT or Ranchi University. They have cleared their course work and the research work is at different stages of completion.

- **Development of Learning Management System:** The University is developing LMS system to promote ICT enabled blended learning. A training programme for the faculty was conducted on 30th November and 1st December by an expert from New Delhi under the guidance of Prof. Madhulika Kaushik, PVC. It is hoped that soon faculty would start loading their courses on the Moodle platform so that these become available to each student. However, access to these shall be regulated by the University.

- **Annual Raise:** The Finance Committee had in its meeting highlighted the importance of attaining self-sustainability without compromising quality of education and welfare of all teaching and non-teaching employees. The median of annual raise this year was in the range 4.5k to 6k. However, those charges with dual responsibilities were compensated with higher raise.
• **ODL Programmes:** The AC had authorized the VC to decide on ways to develop SLMs for programmes to be offered through ODL mode. The University has signed an MOU with Lakshmi Publications Pvt. Ltd, 113 Golden House, Darya Ganj, New Delhi 110002 for print materials for all programmes. The University is also exploring the possibility of signing MOUs with Open Universities like OSOU, YCMOU, IGNOU, BRAOU, etc depending on their suitability in its context.

Thereafter, the Vice Chancellor invited suggestions from the members.

**AC.6.1.1** The members appreciated the rapid progress made by the University in a short time in the offerings of academic programmes, including PhD, placements and acquisition of land. They advised that the University should start compiling its Annual Reports and put them on the website so that all information is easily available at the time of seeking NAAC accreditation.

The VC then requested the Registrar to present the agenda items. While making deviation from the past practice, the Registrar made power point presentation. The Council took the agenda items one by one for its consideration.

**AC.6.2** To confirm the minutes of the Fifth meeting of Academic Council and matters arising out of minutes

**AC 6.2.1** Prof. V. K. Pandey, Registrar, informed the Council that the minutes of Fifth meeting of the Academic Council held on 11.10.18 were circulated to all members soon after and are placed at Annexure 1. One of the members from CS faculty, UMU had informed the Chair that the suggestions of the AC about their courses were not explicitly reflected in the minutes. The Chair communicated the points which were inadvertently left out and suggested that the faculty should discuss these and report the Action taken for the consideration of the members. With the inclusion of these comments, the minutes may be confirmed.

He also invited members to raise any matter arising out of the minutes.

**AC 6.2.2** The Council approved the minutes after deliberating on the suggested changes in CS courses.

**AC 6.2.3** No issue was raised under matters arising out of minutes.

**AC 6.3** Action Taken Report
The AC perused the action taken (Annexure 2) and expressed satisfaction on compliance of its decisions.

**AC 6.4 To consider and Approve Creation of Faculties of Health Science, Education, Agriculture and Law**

The Registrar informed that while approving the offer of professional programmes such as LLB, BBALLB and B. Ed (Special Education) in its fourth meeting held in March 2018, the Academic Council had advised strict adherence to provisions of national statutory bodies. Accordingly, the University administration applied for approval of these programmes. While the approval has not as yet been accorded, it is considered prudent to create Faculty of Law, Faculty of Education and Faculty of Health Sciences so that such programmes could be suitably located as and when approved and appointments of teachers in these faculties be made accordingly. He proposed that Faculty of Law, Faculty of Education and Faculty of Health Sciences be created in the University.

**AC 6.4.2** The Council appreciated that the University Administration was conducting itself as per the rule book, even in expansion and addition of new programmes. It approved creation of the Faculty of Law, Faculty of Education and Faculty of Health Sciences in the University.

**AC 6.5 To consider and approve the proposal for launch of B. Tech (CS, Mining, Mechanical), PhD (Education), Agriculture and Para-medical programmes**

The Registrar informed the Council that under the guidance of its statutory bodies, the University has been expanding in terms of enrollments and programme offerings. For instance, the University enrolled about 300 students in its programmes such as MBA, M.Com, MCA, BBA, BCA, BCom, English (H), Diploma (CS, Mining, Mechanical, Civil and Electrical) and PhD programmes in Management, Computer Science, Mathematics, Commerce, Physics and English. (In the academic session 2017-18, 203 students enrolled and a few dropped out later on.) Now that the University has acquired about 31 acre land in Narayan Soso (Angada) and construction of new campus is about to begin, it is proposed to upgrade offerings in Engineering to B. Tech in CS, Mining and Mechanical Engineering, once requisite infrastructure has been put in place. Moreover, in the last cycle of PhD admissions made in July 2018, there was huge demand for PhD in Education. To cater to such people, it would be desirable to offer these programmes for a pro-active institution such as UMU. Similarly, in a
new state inhabited predominantly by SC/ST population, it is extremely important to start Para-medical education programmes in health services. Also, being a predominantly agrarian society, it is important to create opportunities for agriculture education. The details shall be worked out by the expert committees and the recommendations shall be placed before the Council for further guidance.

AC 6.5.2 The Council deliberated the issues in detail and decided as under:

- para-medical programmes such as B. Pharmacy and D. Pharmacy, BSc (Nursing) and other job oriented short term programmes be launched but approvals of national statutory bodies be obtained wherever required before mounting these;
- B. Tech (CS, Mining and Mechanical) be offered only after establishing lab facilities as per AICTE and its approval be obtained in due course, even if the same is not mandatory for private universities, to add value to current and future offerings and brighten job prospects for graduating students;
- PhD programme in education be offered strictly as per the 2016 UGC regulation and academic faculty be appointed as per NCTE guidelines;
- appointments in law and other faculties be also made as required by the national statutory bodies; and
- BSc (Agriculture) should be offered under B Voc mode as a flexible modular programmes with multiple entry and exit points. The University should preferably look for partners so that field work can be done outside the University and our learners acquire requisite skills and competencies.

AC 6.5.4 Subject to the above, the AC approved the proposal for launch of PhD programme in Education, B. Tech and other undergraduate programmes in Para-medical and agriculture after observing due diligence.

AC 6.6 To consider and approve the strategy for offer of ODL programmes

AC 6.6.1 The Registrar informed the Council that In its last meeting, the Academic Council noted the decision of the BOM that all possible legal steps be taken for seeking approval of DEB (UGC) for offer of MBA, BBA, M.Com, B.Com and B.A(Hons) English programmes through the distance mode. This would help diversify visibility of the University, apart from empowering and enlightening the educationally marginalized and deprived people of the state of Jharkhand. The Academic Council had also approved the Project Proposal Reports. The
application was filed on 4.10.18 and some clarifications were sought on 10.11.18. On receipt of the same, the DEB has now informed that a committee would visit the University soon to assess its infrastructure and faculty, etc.

AC 6.6.2 Prof. Pandey further informed that development of SLMs for these programmes would take time. Therefore the University has signed an MOU with M/s Lakshmi Publications Pvt. Ltd, which is Delhi based. The University is also exploring the possibility of signing MOU with open universities such as OSOU, YCMOU, IGNOU, BRAOU so that the best quality materials are made available to the learners. In the meantime, the process for developing SLMs on the basis of OERs and MOOCs has been initiated but learner support would be technology based. With this in mind, the University has trained its faculty in Learning Management System so that it can upload materials on the Moodle platform.

AC 6.6.3 The Academic Council deliberated the issue in detail and advised that MOU should be entered into with well established agency/publisher/institution(s) and that too till the time University develops its own materials. As a strategy, this would facilitate the University to be self-sustainable.

AC 6.7 To consider and approve offer of short term vocational programmes with participation of industry

AC 6.7.1 The Registrar informed the Council that In the highly dynamic times that we live in, there is need for both academics and professionals to continuously upgrade their knowledge in order to increase productivity and remain relevant to their respective work arenas. He highlighted the fast emerging fields like AI and Machine learning and their resultant impact on the world of work as well as the world of learning, developments like 3D printing, Data analytics, personal taxation and IOT, which are bringing about irreversible changes to not only the manufacturing sector but also the entire SCM industry.

AC 6.7.2 The Registrar further emphasized that a dynamic and proactive learning organisation such as UMU would like to plug the identified knowledge and skill gaps in the academic provisions and impart competencies required by the academic staff in various HEIs for the world of work in the 21st century. The University considers it prudent to develop some focused short term courses aimed at identified gap areas like AI and ML, Learning Analytics, critical thinking and problem solving, working in teams, leadership skills and more applied areas like personal
finance, digital marketing, solar energy as alternative energy source, time management, managing work-life balance and stress management, etc.

**AC 6.7.3** The Registrar proposed to offer two short courses in each semester, based on the emerging interest and available expertise. Such short courses of two three days duration would be offered in the evening on part time basis in face to face mode by involving highly experienced faculty/professionals from the related fields as resource persons. Their delivery mode would be supported by scaffolding of technology enabled learner support.

**AC 6.7.4** The Council approved the proposal.

**AC 6.8 To Consider and Approve Conduct of Faculty Development Programmes**

**AC 6.8.1** The Registrar highlighted that every higher education institution has to do something definitive about re-equipping its academic faculty with the much required competencies needed by the changing realities in the world of teaching-learning, learner assessment, outcome based learning and so on. With this understanding, UMU would like to offer for its own faculty as well as academic faculties of other HEIs in the region, at least one faculty development programme in each semester on the following felt gaps

1. Technology supported new pedagogies
2. Using Open education resources in teaching-learning
3. Managing learner engagement and learner support
4. Outcome based learner assessment- Design and use
5. Academic writing/ Case writing
6. Using cases in teaching and learning

**AC 6.8.2** The Registrar informed the Council that UMU would like to bring together eminent experts as resource persons and hold these programmes in the workshop mode. By so doing, the University would ensure both sharing of expertise and practical hands on work through individual and group work.

**AC 6.8.3** The Council liked the idea and appreciated the lead taken by the University. It advised that the programme should be announced in April/May and be kept for 2-3 days.
Any other matter with the permission of Chair

Member suggested that the University should seek NAAC approval as and when due but start preparations from now onwards as far as collating information and put the same on University website year-wise under various heads.

The meeting ended with vote of thanks to the Chair.

Prof. Viplaw Kishore Pandey
Registrar, UMU and Member Secretary

Appendix 1
USHA MARTIN UNIVERSITY

Minutes of the Fifth Meeting of the Academic Council of Usha Martin University held on 11.10 2018

The fifth meeting of the Academic Council of Usha Martin University was held on 11.10 2018 at 3 pm in the University Campus. The following members were present:

1. Prof. S. C. Garg, Vice Chancellor, UMU – Chair
2. Prof. Vandana Bhattacharjee, BIT Mesra, Ranchi, Member
3. Prof. Madhulika Kaushik, PVC, UMU
4. Dr Vinay Singh, Associate Prof., UMU
5. Dr. Arvind Hans, Associate Prof., UMU
6. Dr Anupma Verma, AP., UMU
7. Prof. Viplaw K. Pandey, Registrar, Member Secretary

Prof. L. N. Bhagat, Prof. S. Chaudhari, Dr Sharmista Roy, A.P., UMU and Dr. Abhishek Pandey, AP, UMU could not attend the meeting due to prior engagements.

AC.5.1 Chairman’s comments and welcome

At the outset, Prof. S. C. Garg, Vice Chancellor, extended a very warm and cordial welcome to all present on behalf of the University and on his own behalf. He expressed his gratefulness to the members for sparing their time and giving us the benefit of their experience and expertise. He felt assured that with their continued support, we would succeed in our mission of providing high quality inclusive education at affordable cost to all in the state of Jharkhand, reverse the process of brain drain and supplement the efforts of MHRD, Jharkhand in increasing the GER in higher education. Before I request the Registrar to present the Agenda Items, I would like to inform you that in the last academic session, AC met four times and RC met once each. The second meeting of RC was held on 27.7.18. I would like to share with you all the academic developments since the last meeting.

• Placement of MBA students: Spandana Sphoorty Financial Limited visited the Campus on 5.10.18 and conducted placement interviews. Three of our MBA students have been successful in getting final placement as Branch managers for the Jharkhand zone. On behalf of the University and on my own behalf, I would like to congratulate them, the
Placement Officer and the Registrar, under whose guidance the entire exercise was undertaken.

- UMU has been conferred awards of the best upcoming university and the most innovative university of East India.

- **Meetings in MHRD, Jharkhand:** MHRD, Govt. of Jharkhand convened meetings of the Vice Chancellors of private universities on 9th May and 10th August, 2018. One of the issues constantly pressed in the meeting was acquisition of land as underlined in the initial proposal for setting up the University. In the May meeting, UMU was given six months to purchase land and deposit evidence for the same in the Ministry. In the August meeting, this issue was again raised by the Secretary, Technical and Higher Education. He was informed by the VC that the management has signed an agreement for 31.6 acre land in Narayan Soso. The process of getting the land registered in the name of the University should be completed by October-end. It is hoped that construction of buildings will begin by end of 2018 and we should start our 2019 session in our own buildings.

The Secretary also inquired about the programmes offered by the University in general and PhD programme in particular. The VC informed the Secretary about exact details in that 22 research scholars had joined the PhD programme of UMU in 2018 (Management 12, Computer Science 4, Commerce 3, Physics, Mathematics and English one each.) and as required by 2016 regulations of UGC, every scholar has been assigned an internal Supervisor.

**Commencement of the 2nd Academic Session:** The 2nd Academic session at UMU for 3rd semester students commenced from 16th July, 2018, whereas Academic session for 1st semester commenced on 8th August, 2018. (All other private universities in the state have scheduled their academic session to commence in September. We have matched our calendar with the schedules of frontline institutions such as BIT and Ranchi University.) Induction meetings were held and students were appraised with good teaching-learning practices of the University. While orientation of old students was done by Prof. Viplaw Kishore Pandey, the new students were addressed by the VC and respective discipline teachers. The queries of the parents of new students were responded to by the Registrar. I am happy to inform you that in 2018, 305 (283+22) students enrolled till 30.9.18 with an impressive growth rate of about 40%.

The Vice Chancellor emphasized the need to comply with the requirement of 70% attendance put by the UGC to be eligible for taking midterm and end-semester examinations. The anti-ragging measures taken by the University made sure that new
students were not harassed. As far as diversification of the academic profile of the University is concerned, we have taken several initiatives. Some of these include

- Our University has added BCom, MCO, BA (English) Hons and PhD programmes to the earlier bouquet of programmes.

- The research scholars who joined in the first cohort have submitted their research proposals, which are being examined by the Departmental Committees of overseers. Moreover, their term-end examination for Research Methodology paper was held on 15th September.

- The Research Council of the University had advised that every scholar should be asked to submit progress report every six month. The Controller of Examinations has been tasked with developing the format of the same.

- **Addition of Core faculty:** In the last academic session, we had recruited 8 full time teaching faculty members. Of them, services of one academic staff were terminated due to unsatisfactory performance and one AP in Computer Science left the University with effect from 14th July, 2018 for family reasons. One AP (Management) resigned in September to join Sarla Birla University. Their resignations were accepted by the Vice Chancellor subject to ratification by the BOM.

With the addition of a new batch and introduction of specializations in MBA and Diploma programmes, it became mandatory to recruit new faculty. Accordingly, the positions of AP, Associate Professor and Professor were advertised through University Website. The shortlisted candidates were interviewed and selection committees constituted for all subjects had at least one eminent external expert. Appointment of One Professor, three Associate Professors, four Assistant Professors and four Faculty Associates was approved by the BOM in its last meeting. As of now, we have 10 full time PhD faculty members at different levels (Professor 1, Associate Professors 3 and Assistant Professors 6) and another AP is waiting for the award. All other faculty members are enrolled in PhD programme of BIT or Ranchi University. They have cleared their course work and the research work is at different stages of completion.

- Our full time faculty of 16 is supported by eight visiting scholars. (In 2017-18, we had eight full time and four visiting faculties.) In case UGC accords approval to our proposal for offering distance education programmes, we might have to go for another round of recruitment.
Training and Placement Officer: We are aware that placement of our final year MBA and MCA students will determine the quality of the training/education provided and standing of our university. In addition to domain knowledge, students would need to develop communication and presentation skills so that they can impress in group discussions as well as one-to-one interactions with employer representatives. To accomplish this task, the University has appointed Training and Placement Officer, who has considerable experience and excellent network of employer groups.

Creation of additional infrastructure: One workshop and four additional rooms have been created on the campus. All lecture rooms now have facilities for A/V presentation and the campus gives the feel of technology enabled institution. The University has hired one floor in a new building known as Knowledge Centre and would soon shift its city office. Moreover, we wish to use additional space for holding classes for Research Methodology and Computers in Research for PhD scholars, apart from B. Com, M. Com and BA(English) Hons.

Development of Learning Management System: The University has developed LMS system to promote ICT enabled education. Students as well as faculty would be trained to share all learning resources and interact among themselves.

Provision of Payment of Provident Fund: The Finance Committee had in its meeting highlighted the importance of attaining self-sustainability in due course while suggesting that payment of PF and annual increments to all regular teachers as well as non-teaching staff should be implemented as a mandatory requirement. The University management has approved payment of PF and the details are being worked out. As for increments, a raise ranging from 4.5 to 6k was awarded to the teaching staff.

Thereafter, the Vice Chancellor requested the Registrar to present the agenda items. The Council then took the agenda items for its consideration.

AC.5.2 To confirm the minutes of the Fourth meeting of Academic Council and matters arising out of minutes

AC 5.2.1 Prof. Pandey, Registrar, informed the Council that the minutes of Fourth meeting of the Academic Council held on 27.3.2018 were circulated to all members soon after and are placed at Annexure 1. No comments were received from any member after circulation of the minutes.
In view of the decision taken in the last meeting, he requested the members that the minutes may be deemed to have been confirmed as circulated.

He then invited members to raise any matter arising out of the minutes for the betterment of the University and its stakeholders.

**AC 5.2.2** The Council approved the minutes as circulated. No issue was raised under matters arising out of minutes.

**AC.5.3 Action Taken Report**

The AC perused the action taken (Annexure 2) and expressed satisfaction on compliance of its decisions.

**AC.5.4 To note the minutes of the Research Council**

**AC.5.4.1** The Registrar informed the Academic Council that the University conducted its second entrance test for the PhD and M. Phil programmes on 24.6.18 for admission in management, computers, commerce, physics, English and mathematics. The candidates qualifying the admission test were invited for an interview discipline-wise. The interviews of candidates qualifying the admission test as per UGC guidelines adopted by the University were conducted with the support of eminent subject experts. The Research Council approved the list of twenty five candidates (Management 13, Commerce 4 and Computer Science 5, physics, 1, mathematics1, English 1) for admission to the research degree programmes. Of them, twenty two candidates have joined (Management 12, Commerce 3 and Computer Science 4, physics, 1, mathematics1, English 1) and orientation programme for them was held on 15.9.18. All research scholars were informed that every candidate has to submit six monthly progress report. The minutes of the Research Council are placed at Annexure 3.

**AC.5.4.2** The item was taken up for discussion. The Academic Council noted that the no. of scholars seeking admission in the PhD programme of the University has diversified horizontally as well as vertically and appreciated the University for the same.

**AC.5.5 To note the decision of BOM for offer of programmes through ODL Mode**
**AC 5.5.1** The Registrar informed the Council that while considering the proposal for admitting private candidates in its last meeting, the AC had advised that UMU should do so only if UGC permitted it. While placing the action taken on the decisions of the last meeting, it has been reported that UGC prohibited such enrollments and the University did not proceed further. But recently, UGC has decided that private universities could seek its approval to offer through the ODL mode only those programmes which they offer in the F2F mode. This decision seems to be guided by the consideration of improving GER in higher education. Accordingly, the BOM resolved by circulation to take all possible steps for seeking approval of DEB, UGC for offer of MBA, BBA, M.Com, B.Com and B.A(Hons) English. The Academic Council further approved by circulation the PPRs and strategy for development of SLMs for these programmes so that the same could be used for the purpose of application for approval of Distance Education Bureau, UGC for offering these programmes through the ODL mode for the period 2018-19. The University submitted its application on 4.10.18 (The last date for submitting application was 5.10.18.)

**AC 5.5.2** The Academic Council noted the decision of BOM while reaffirmed its own decision.

**AC 5.6 To consider the recommendations of COO in respect of courses of CS**

**AC 5.6.1** The Registrar informed the Council that the University began to offer BCA and MCA programmes w. e. f the academic year 2017-18. In its first meeting held on 19.4.17, the AC had decided to adopt CBCS system for offer of various programmes. However, the UGC document provides window for up to 30% change either to customize a programme for local context or meet contemporary requirements. Since changes in computer education are taking place very rapidly, the faculty of the University considered it prudent to make these programmes more relevant in present day context. To incorporate changes, the VC constituted a Committee of Overseers, which has suggested changes in the syllabi of BCA as well as MCA programmes. These are highlighted in Annexure 3 and 4, respectively of Agenda papers.

**AC 5.6.2** The item was discussed in detail and approved as such. It is placed at Annexure 4 and 5.

**AC 5.7 To consider and approve the Syllabi for Course Work in Research Methodology and Computers in Research**
The Registrar informed the Council that the University began to offer M.Phil / PhD programmes in 2017 and eight research scholars were enrolled in the first cohort. The course work on Research methodology was transacted as per UGC guidelines and the contents are appended in Annexure 6 for perusal and approval of the AC. He further informed that in the second cohort admitted in August 2018, the course work on RM and Computers in Research is on offer and the syllabus for the latter is also placed at Annexure 6. He requested the Academic Council to approve the syllabi of the proposed courses.

The Academic Council discussed the course contents in detail and approved these as proposed.

No matter was taken up under this item.

The meeting ended with vote of thanks to the Chair.

Prof. Viplaw Kishore Pandey
Registrar and Member Secretary

Appendix 2

USHA MARTIN UNIVERSITY
# Action Taken Report on the Minutes of Fifth Meeting of Academic Council

<table>
<thead>
<tr>
<th>S. No</th>
<th>Item</th>
<th>Decision Taken</th>
<th>Action Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>To note the decision of BOM for offer of programmes through ODL Mode</td>
<td>Noted the decision of BOM</td>
<td>The decision has been communicated to the UGC for consideration and approval of offer of MBA, M. Com, BBA, BCom and English (H) through distance mode.</td>
</tr>
<tr>
<td>2.</td>
<td>To consider the recommendations of COO for courses</td>
<td>There were inconsistencies in the no. of credits and lab courses.</td>
<td>The details were communicated to the faculty, who has worked along the suggestions of AC and the item is placed again for the consideration of the members.</td>
</tr>
<tr>
<td>3.</td>
<td>To consider and approve the Syllabi for Course Work in Research Methodology and Computers in Research</td>
<td>The course work was approved as proposed</td>
<td>The decision has been communicated to the COE.</td>
</tr>
</tbody>
</table>