D. 44850/ CH. 37

Tender Technical # IT/14/20-21

OFFICE SUPERINTENDENT
Stamp Office, City Court
Karachi.

16.9.21

16 SEP 2021

AGREEMENT

Development & Implementation of Custom Modules for ERP at IBA Karachi

THIS AGREEMENT is executed at KARACHI, on this day Sep 20, 2021.

BETWEEN

M/s Institute of Business Administration, through its Registrar, located at **Main Campus, University Enclave, Karachi,** hereinafter called and referred to as "IBA" (which expression shall wherever the context so permits, be deemed to include its legal representatives, executors, successors, and assigns) of the FIRST PART.

AND

M/s Mimsoft (Pvt) Ltd, having its office at **303 3rd Floor D/C 5/7 Clifton Shaheen Center Clifton, Karachi**, hereinafter referred to as "THE SUPPLIER" (which expression shall wherever the context so permits be deemed to include its legal representatives, executors, successor, and assigns), through **Mr. Shehzad Rah**, Chief Executive Officer, holding CNIC No. **42201-0950273-3** on the SECOND PART.

WHEREAS "IBA" intends to obtain Development & Implementation of Custom Modules for ERP IBA Karachi vide tender # IT/14/20-21 for the Development & Implementation of Custom Modules for ERP IBA Karachi (IBA requirement) discussions in respect of the same before the determination of scope of supply will be held with "IBA" as "Development & Implementation of Custom Modules for ERP IBA Karachi" and "THE SUPPLIER" have offered to render Development & Implementation of Custom Modules for ERP IBA Karachi in accordance with the requirements of IBA Tender # IT/14/20-21.

NOW IT IS HEREBY AGREED & DECLARED BY AND BETWEEN THE PARTIES AS FOLLOWS:

WITNESSETH

"IBA" hereby offer to appoint "THE SUPPLIER" for the specific purpose of "Development & Implementation of Custom Modules for ERP IBA Karachi" discussions in respect of the same with "IBA" before the determination of Scope Development & Implementation of Custom Modules for ERP IBA Karachi with any/all other relevant details to "IBA". "THE SUPPLIER" hereby agree to the offer of the "IBA" in acceptance of the terms & conditions here in below forth.

Article I
DUTIES & SCOPE OF SERVICES AND AGREEMENT

1.1 "THE SUPPLIER" agrees to provide any/all kind of Development & Implementation of Custom Modules for ERP IBA Karachi as per the "Complete Scope" as laid out in "Annexure A (Complete Scope) to the "IBA" as per the terms & conditions of this Agreement.

1.2 "THE SUPPLIER" will coordinate with Head of ICT, of the "IBA" who will assist "THE SUPPLIER" in supervision of proposed Development & Implementation of Custom Modules for ERP IBA Karachi.

1.3 "THE SUPPLIER" hereby agrees to accept variation, if occurred, in scope of services with mutual consent on acceptable cost/price/charges/amount inclusive of all taxes and levies.

1.4 This assignment will cover the overall development of a modern ERP system that meets the requirements of IBA to achieve its business objectives. The scope of this assignment will cover Development, Testing, Implementation, Training & Maintenance of all the features that are listed in later sections of this document. The custom modules of ERP will use the existing Database of PeopleSoft Campus Management System to retrieve all the academic structure & historical data.

1.5 Project Objectives

The project is required to meet following objectives

1.5.1 Student Centric Higher Education Eco-system: Entire Student Life Cycle from prospecting to enrolment / graduation checking / alumni shopping cart (Degrees / Transcripts) along with other auxiliary features (Hostels, Transport, job placement portal)

1.5.2 Administrative Simplification: User Centric & System Re-engineering.
1.5.3 Data & Databases Integration – Governance, data integrity, standards, multiple applications, and platforms.
1.5.4 Safeguarding Institutional Privacy & Protecting Data.
1.5.5 Incorporate new Technologies Sustainably (Financially / Cost & Benefit Analysis).
1.5.6 IT Leadership as an integral strategic partner.
1.5.7 Organizational Risk Mitigation.
1.5.8 Organization wide acceptance & ownership of System.
1.5.9 Clarity of Business Processes and Sufficient Training.
1.5.10 Student Retention and Completion: Reports & Timely support.
1.5.11 Improved Enrolments: Using Data and analytics to develop inclusive and financially sustainable enrolment strategy to serve more and new learners by personalizing student recruitment, enrolment, and overall experiences.
1.5.12 Higher Education Affordability.

Article II
PROJECT DURATION

2.1 The total duration for the completion of this Project will be 18 months from the date of signing of the contract.

Article III
PROPERTY RIGHTS & OWNERSHIP

3.1 All data disclosed by IBA to the Supplier relating to, inter alia, the students, faculty, employees, vendors and financial matters of IBA (the "IBA Data") shall remain the property of IBA.

3.2 The Supplier undertakes that the disclosure and provision of the IBA Data shall not be construed as granting any rights upon the Supplier (whether express or implied by licence or otherwise) on any matters to which such data relates.

3.3 Subject to [clause 3.4] below, the Supplier shall not use or disclose the IBA Data (or permit its employees or agents to do so) for any purpose other than for the performance of its obligations under this Agreement.

3.4 All disclosures by the Supplier in connection with the provision of its services under this Agreement shall be made only to such persons, employees or agents that owe confidentiality obligations to the Supplier.

3.5 Ownership of the Code

3.5.1 The source code disclosed by the Supplier to IBA (the "Code") shall remain the property of the Supplier (M/s MimSoft pvt limited)

3.5.2 IBA acknowledges and agrees that the disclosure of the Code by the Supplier shall not be construed as granting any rights (whether express or implied by licence or otherwise on the matters, inventions or discoveries to which the Code pertains or any intellectual property rights such as copyright, trademark etc.) upon IBA or its authorised recipients.

3.5.3 IBA undertakes that it shall not disclose or use the Code for any purpose other than for the continued functioning of the software upon the cessation of the Supplier services under this Agreement and shall procure that its authorized recipients shall hold the Code in strict confidence.

Article IV
REMUNERATION

4.1 The cost offered by the Supplier is Rs. **14,238,000** (inclusive of all taxes) for Development & Implementation of Custom Modules for ERP IBA Karachi vide tender # IT/14/20-21. The cost is inclusive of labor/transportation/supplies/etc. Details of items are appended below.

S.#	Description	Completion time of each module	Amount (PKR)
1	**A. Admissions Module** 1. Student Profile: Determine student demographics, family information, financial support information, educational background, and related information. 2. Documents Collection: Initial documents including NIC (self, parents), home address, school address, online submission of educational documents. 3. Testing: Preparing and sending admit cards, maintaining and utilizing the question bank, arranging venues, taking test, compiling test results, completing document checklist, successful candidates to connect with DPO	4.5	**3,150,000**
2	**B. Program Office Module** 1. Faculty Services: Faculty allocation, sharing preferences for teaching a course, date, timings, preference for class type (regular, mega, lab) and submitting grades. 2. Student Services: Course registration, access study progress, checking grades, access the time- table, checking attendance, sending requests related to courses such as withdrawal, semester freeze, submit faculty evaluation and other related applications.	7.2	**5,040,000**

	3. Operational Activities: Sending documents for verification to enrolment section, accurate demand analysis, scheduling courses, assisting in registration, providing student services related to courses and semester.		
3	**C. Examinations Module** 1. Degree Advisement: Advise students and all other stakeholders about their respective program of study and degree requirements, maintaining records for probation and other relevant data. 2. Degree Verification: Receiving freshmen's documents from DPO and send to respective boards for verification, also provide verification at IBA's degree when receive such requests. 3. Grading Records: Keeping the students' grade records when receive from faculty members, issuing warnings to those students who are on probation and securing less than allowable GPA.	3.6	**2,520,000**
4	**D. Alumni Support Module** 1. Post-Graduation catering to Alumni needs such as degree issuance, transcript issuance, verification of documents and other similar services 2. Integration with LinkedIn API to fetch current employment as well as previous employment history of Alumni.	2.7	**1,890,000**
	Total Amount		12,600,000
	SST		1,638,000
	Grand Total Amount Inclusive of SST of A, B, C and D		**14,238,000**

4.2 Liquidated damages at the rate of 2% per month of the total contract amount will be imposed on delayed delivery up to 10% of the total contract value.

4.3 Performance Security 5% of total amount of Purchase Order will be provided by the party.

4.4 Stamp Duty @ 0.35% of the cost of transaction / purchase order will be deposited in Government treasury by the SUPPLIER.

4.5 Tax(es)/Challan(s)/Levy(ies), Custom Duty/Excise Duty etc. if any or additional will be paid/borne by SUPPLIER as per SRO/Notification.

4.6 Hourly rate for any further development at Rs. 2,500/-

4.7 Yearly SLA (when required) will cost Rs.3,300,000/- (inclusive of all taxes) that is based on estimated 1500-man hours

Article V
ARBITRATION

GOVT. OF SINDH CHI PAKISTAN

5.1 In case of any dispute, difference or and question which may at any time arise between the Parties hereto or any person under them, arising out in respect of this Agreement or this subject matter thereof shall be referred to the Registrar of the IBA and CEO of the company / firm / agency for arbitration/settling of the dispute, failing which the decision of the court law in the jurisdiction of Karachi binding to the parties. The Arbitration proceedings will be governed by the Arbitration Act, 1940 and the Substantive and procedural law of Pakistan. The venue shall be Karachi.

Article VI
TERMINATION

6.1 "IBA" may terminate this agreement if the job is not executed according to the scope requirement within agreed timelines at any time after issuing a 15 days' notice. Decision of the termination would be taken by the IBA ERP Steering Committee.

Article VII
INDEMNITY

7.1 "THE SUPPLIER" in its individual capacity shall indemnify and keep IBA and any person claiming through IBA fully indemnified and harmless from and against all damages, cost and expenses caused to or incurred by "THE SUPPLIER", as a result of any defect in the title of IBA or any fault, neglect or omission by the "THE SUPPLIER" which disturbs or damage the reputation, quality or the standard of services provided by "IBA" and any person claiming through the IBA.

Article VIII
NOTICE

8.1 Any notice given under this AGREEMENT shall be sufficient if it is in writing and if sent by courier or registered mail.

Article IX
INTEGRITY PACT

9.1 The intention not to obtain the procurement / purchase of any Contract, right, interest, privilege, or other obligation or benefit from the IBA or any administrative or financial offices thereof or any other department under the control of the IBA through any corrupt practice(s).

9.2 Without limiting the generality of the forgoing the M/s Mimsoft (Pvt) Ltd, represents and warrants that it has fully declared the charges, fees, commission, taxes, levies etc., paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within the IBA directly or indirectly through any means any commission, gratification, bribe, gifts, kickback whether described as consultation fee or otherwise, with the object of obtaining or including the procurement or service contract or order or other obligations whatsoever from the IBA, except that which has been expressly declared pursuant hereto.

9.3 M/s Mimsoft (Pvt) Ltd, accepts full responsibility and strict liability for making any false declaration/statement, not making full disclosure, misrepresenting facts or taking any action likely to degrade the purpose of declaration, representation and warranty. It agrees that any contract/order obtained aforesaid shall without prejudice to any other right & remedies available to the IBA under any law, contact, or other instrument, be stand void at the discretion of the IBA.

9.4 Notwithstanding any right and remedies exercised by the IBA in this regard, M/s Mimsoft (Pvt) Ltd, agrees to indemnify the IBA for any loss or damage incurred by it on account of its corrupt business practice & further pay compensation to the IBA in any amount equivalent to the loss of any commission, gratification, bribe, gifts, kickback given by the M/s Mimsoft (Pvt) Ltd, as aforesaid for the purpose of obtaining or inducing procurement or other obligation or benefit in whatsoever from the IBA.

Article X
SEVERABILITY

10.1 If any terms covenant or condition of this agreement shall be deemed invalid or unenforceable in a court of law or equity, the remainder of this agreement shall be valid & enforced to the fullest extent permitted by prevailing law.

Article XI
PAYMENT TERMS

Sr. #	Timeframe / Phase Completion	Deliverables	Amount	Payment Releases
	Requirement collection and analysis.	Complete Solution Design along with necessary documentation	**1,260,000**	**1,260,000**
A	**Admissions Module**			
	Complete project Development & Software Testing *	Ready Product along with Source Code, BI Reports		**2,551,500**
	Completion of Successful User Acceptance Testing	UAT Signoff		
	Implementation & Go-Live on Production	Live Application on Cloud		
	Post Implementation Support for 1 year & Project Closure	User Guide, Project Closure reports	**2,835,000**	**283,500**
B	**Program Office Module**			
	Complete project Development & Software Testing *	Ready Product along with Source Code, BI Reports		**4,082,400**
	Completion of Successful User Acceptance Testing	UAT Signoff		

	Implementation & Go-Live on Production	Live Application on Cloud		
	Post Implementation Support for 1 year & Project Closure	User Guide, Project Closure reports	**4,536,000**	**453,600**
C	**Examinations Module**			
	Complete project Development & Software Testing *	Ready Product along with Source Code, BI Reports		**2,041,200**
	Completion of Successful User Acceptance Testing	UAT Signoff		
	Implementation & Go-Live on Production	Live Application on Cloud		
	Post Implementation Support for 1 year & Project Closure	User Guide, Project Closure reports	**2,268,000**	**226,800**
D	**Alumni Support Module**			
	Complete project Development & Software Testing *	Ready Product along with Source Code, BI Reports		**1,530,900**
	Completion of Successful User Acceptance Testing	UAT Signoff		
	Implementation & Go-Live on Production	Live Application on Cloud		
	Post Implementation Support for 1 year & Project Closure	User Guide, Project Closure reports	**1,701,000**	**170,100**
		Total Amount		12,600,000
		SST		1,638,000
		Grand Total Amount Inclusive of SST of A, B, C and D		**14,238,000**

** Release of payment is subject to 3rd party audit of the development. Auditor will be appointed by IBA.*

Article XII
OPERATIONAL MAINTENANCE

12 The supplier shall be responsible for installation, configuration and integration of the software to the IBA provided servers. The supplier shall ensure that newly deployed software modules work seamlessly with existing applications. Software installation, configuration and integration will be free of cost.

Article XIII
MISCELLANEOUS

13.1 IBA Shall be responsible for providing third party software / access to API's including but not limited to Server software / Database software, licenses etc.

13.2 IBA Shall be responsible for layout of network infrastructure, security, anti-virus etc. which is out of scope of this agreement.

13.3 THE SUPPLIER's name shall be displayed on the user interface of the modules developed by the Supplier

13.4 The terms and conditions of the AGREEMENT have been read over to the parties which they admit to be correct and abide by the same.

13.5 The validity of the contract will be effective from the date of issue of Work Order.

13.6 All terms and conditions of tender vide # IT/14/20-21 will be an integral part of this agreement and cannot be revoked. For any discrepancy this agreement shall supersede.

IN WITNESS WHEREOF both the parties hereto have set & subscribed their respective hands to this agreement at Karachi on the date as mentioned above.

Dr. Mohammad Asad Ilyas
Registrar
Former Chairperson Accounting & Law Department
Institute of Business Administration (IBA),
Karachi, Pakistan

"IBA"
NAME: Dr. Muhammad Asad Ilyas

CNIC # 42301-4497722-9

Address:
Registrar, Institute of Business Administration Main Campus
University Enclave, Karachi

M/S Mimsoft (Pvt) Ltd
NAME: Shehzad Rah

CNIC # 42201-0950273-3

Address:
303 3rd Floor D/C 5/7 Clifton Shaheen Center Clifton, Karachi.

WITNESS:

1.
Syed Fahad Jawed

CNIC # 42201-9125136-3
Address:
Head of Procurement
Institute of Business Administration Main Campus
University Enclave, Karachi

2.
M/s Mimsoft (Pvt) Ltd
NAME: Hazrat Bilal
CNIC # 16101-0404473-9
Address:
303 3rd Floor D/C 5/7 Clifton Shaheen Center Clifton, Karachi.

Focal Person IBA

Dr. Abbas Gillani/ Dr. Sharjeel Hasnie

Annexures

Annexure A (Complete Scope)

Article A-1
ERP STAKEHOLDERS / USERS

Sr#	Stakeholders	Interface
1	Prospective Students	**Front end User Interface 1 – Web based & Mobile App**
2	Enrolled Students	
3	Alumni	
4	Faculty	**Front end User Interface 2 – Web based & Mobile App**
5	Chairpersons	
6	Deans	
7	Executive Director	
8	Program Officers	**Admin User Interface 1 – Web based & Mobile App**
9	Departmental Assistants	
10	HR/Exam/Finance & other Staff Members	
11	IT Administrators	**Admin User Interface 2 – Web based & Mobile App**
12	Super Admin	

Article A-2
PROJECT REQUIREMENTS

#	Department	Module	Features	Details	Lead(s)	Notes Ref
1	Admissions	Prospective Student Registration Portal	Candidate Profile	SMS / Email Confirmation	Testing Services	1
				NIC Primary	Testing Services	1

				GPS Address location - Home	Testing Services	1
				GPS Address location - School	Testing Services	1
				Documents collection - online	Testing Services	1
				Family information	Testing Services	1
				Financial Support Information	Testing Services	1
				Religion / Disability	Testing Services	1
				Marketing Survey	Testing Services	1
				Subject Wise Grades	Testing Services	1
			Candidate History	Test Taking	Testing Services	1
				Admit Cards	Testing Services	1
				Test Results - Online - part of candidate profile	Testing Services	1
				ERP # to connect with ERP	Testing Services	1
				Successful Candidates - Activate - Hostels / Transport / Financial Aid Forms	Testing Services	1
		Online Testing	Data Bank Software		Testing Services	2
			Physical Library - Computer		Testing Services	N/A
			Question Data Bank		Testing Services	2
			Online Testing Software		Testing Services	2/3/4/5

		IBA Student	Processing Enrolment	Document Check List Complete including fee challan	Testing Services / Program Office	6 & 19
				For results pending a specific time would be entered into the system where the system will keep on following up with the student. After a set date / deadline the ERP would be blocked and all relevant notified	Testing Services / Program Office	6 & 19
2	Program Office	Faculty Services				
		Program Officers Portal (Admin Interface 1)	Course Catalog	Course Coding Scheme	Program Office	46
				Course Creation	Program Office	46
				Course Attributes	Program Office	46
			Pre-Requisites / Co-Requisites		Program Office	47

			Setting Up Faculty Evaluation	Setup Questions	Program Office	50
				Open & Close Dates	Program Office	50
		Deans Portal		Program Courses / sequence wise entering / monitoring / updating - Approval & Monitoring	Program Office	7
				Dashboard of Chairperson / Faculty Data described below	Program Office	8
				Dean approval for course allocation after cut off and initial submission	Program Office	9
		Chairperson / Program Coordinator Portal		Entering the Program into the system with a checklist. All checklist including NOC to be uploaded and submissions to the HEC. For new programs it will become a route to complete the submission and then it will archive the data / documents	Program Office	10

				List of courses Semester wise for next 4 years	Program Office	11
				Program Courses / sequence wise entering / monitoring / updating	Program Office	7
				Verification of Pre-Requisites & Co-Requisites	Program Office	7
				Class type - Regular / Mega / Lab	Program Office	12
				Available Faculty - List with features - Student Rating - Historical courses taken - last semester where course was taught - List faculty available across departments (HR Needs to connect) - Faculty allocated courses across institute and department	Program Office	13
				Faculty Allocation - Matching	Program Office	14
				Number of Core / Electives being offered	Program Office	15
				Reports - Course wise faculty taught previous years	Program Office	16

		Faculty Portal		Preferences for full time faculty members to be assigned on course allocated - timing / days / campus	Program Office	17
				Requirements for Visiting faculty members to be assigned on course allocated - timing / days / campus	Program Office	18
			Class Roster	Student details along with Pictures	Program Office	48
			Attendance Roster	Defined Sessions	Program Office	48
				Freeze Attendance	Program Office	48
				Extra Classes / Marking Holidays	Program Office	48
			Students Grading	Grading Plan & Grading Scale	Examination	49

				Gradebook & N-M Assignment Policy	Examination	49
				Grade Posting	Examination	49
			Faculty Evaluation	View Average Evaluation & Comments	Quality Enhancement Cell	50
		PHD Scholars	Research Work Timeline, Milestones & Approval Workflow		Program Office	73

		Student Services	Matriculation	Program Office to verify all the details from the physical documents, mark original seen, ensure all documents present in digital form in the system. Only then approved for enrolment and other student services	Testing Services / Program Office	6 & 19
			Program Information	Generate Demand - 4 years	Program Office	20
				Program Course Sequence - Semester wise	Program Office	21
				Completed and Pending courses	Program Office	22
			Student Enrolment	Term Activation	Program Office	52
				Enrollment Appointments	Program Office	52
				Individual & Bulk Enrollment	Program Office	52

				Enrollment Exemptions	Program Office	52
				Term Break / Student Leaves / Return from Leaves Status	Program Office	55
				Course Selection for 1 year	Program Office	23
				Waiting List with automatic enrolment when room created in the class	Program Office	24
				Add / Drop / Swap	Program Office	25
				Extra 6th course automatically allowed when a deficiency exists	Program Office	26
				Extra 7th course allowed if the student is already in the 7th or 8th semester	Program Office	27
				Last Date of enrolment set	Program Office	28
				Last Date of withdrawal set	Program Office	28
			Transfers	Program Change	Program Office	29

				System regenerates the course sequence and places the student as per the new program	Program Office	29
		Operational - Building / Physical infra management - Resource Planning	Scheduling	Automatic Scheduling based on faculty requirements and or preferences. Campus requirement to be entered by the Program Office	Program Office	30
				Available campus and rooms available with capacity - tagging	Program Office	31
				Algorithm of assignment to be flexible to accommodate PO and calibrate once a year	Program Office	32
		Students Portal		Student Dashboard	Program Office	51
			Self Service Menu	Enrollment Shopping Cart	Program Office	51
				Add/Drop/Swap Courses	Program Office	51
				Planner	Program Office	51
				Timetable	Program Office	51

				Attendance	Program Office	51
				Grading View	Program Office	51
				Student Ledger	Program Office	51
			e-Forms	Online Requests	Program Office	51
				Ticketing	Program Office	51
		Experiential Learning program		Project Registration & Selection	CDC / Program Office	59
		Job Portal	CVs / Resume Creation	Job Applications	RO	72
			Employer Registration	Job Posting, Profile Reviews, Shortlisting & Selection	RO	72
3	Financial Aid	Applications for FA			FAC	33
		RA / TA			FAC	34
		On Campus Jobs			FAC	35
4	Hostels	Application for Hostel Accommodations			Hostel Superintendents	36
5	Transport				Ashraf Khan / Sharjeel	37
6	Examinations	Managing Exams & Degree Audit			Program Office / Examinations	38

		Exam Officers Portal (Admin Interface 1)	Conducting Exams	Exam Paper printing, Envelope Printing, Exam Attendance Sheets	Examinations	38
				Room Allocation, Exam Clash Checker, Admit Cards	Examination	38
				Invigilation Duties, Paper collection, Remuneration Calculation	Examinations	38
			Exchange / Transfer Programs		Examinations	53
			Course Substitution / Course Equivalencies / Transfer Credit		Examinations	54
			Student Clearance for Degree & Transcript		Examinations	56
		Managing Convocation Activities	Degree Completion Status		Examinations	57
			Registration for Convocation		Examinations	57
7	Student Financials	Fee Setup	Fee Item Types		Finance	42
		Charges / Payments	Tuition Fee Calculation	Applying Fees / Charges	Finance	43
				Installments	Finance	43

			Bulk Uploading	Apply Charges in bulk	Finance	43
				Process Payments in bulk	Finance	43
			Reversals / Refunds		Finance	43
		Tax Calculation	Filer / Non-Filer Status		Finance	44
			Payment Tracking		Finance	44
			Integration with FBR		Finance	44
		Student Financial Reporting			Finance	45
8	Registrar Office - Central		Graduation Documents - Shopping Cart	Transcripts	RO	39
				Degrees	RO	40
				Attestations / Verifications / Authentication - IBA Link mentioned on the transcript / degree / reference letter / Physical or E Letter - With charges - Shopping Cart	RO	41
		Societies Election System	Registration / Nomination / Online Voting		RO	58

9	Leadership	Decision Making	Testing		RO	75
			Admissions		RO	75
			Graduation - Institute Support Services		RO	75
			FAC		RO	75
			Hostels		RO	75
			Alumni		RO	75
10	Portal Administration	Security	User Profiles		IT	60
			Password Control Policy / Login Alerts		IT	60
			Roles & Permissions		IT	61
		Audit Logs	User Activity Logs	Add/Update/Delete operations	IT	62
			User Access Logs	IP / MAC Address tracking	IT	62
		Bulk Uploading	Upload data in Bulk through Excel / CSV	Attendance Records, Assignment Scores, Educational Data and other records	IT	74
11	Reporting Tools	Query Manager	Query Development		IT	63

			Query Data Export		IT	63
		Reports Manager	Reports Creator		IT	64
			Report Viewer		IT	64
			Export Reporting Data	Reports in Excel, PDF, HTML, RTF	IT	64
12	System Integration	Integration with MS Dynamics	Student Financials Integration	Data in GL Module	IT	65
				Data in AP Module	IT	65
		Online Payment Integration with Banks			IT	66
		Integration with Websites	Faculty Profiles Data	Courses Taught / Activities / Extra Roles	IT	67
			Faculty Publication Data		IT	67
		Integration with SMS API & SMTP Server			IT	68
		Acquire attendance with QR	QR		IT	69
		Integration with LDAP	Single Sign-On using Active Directory Credentials		IT	70
13	Data Integration				IT	71

Notes

Note 1: Online Registration Portal:

- The required ID will be CNIC, if CNIC is not available then B-form will be used
- Once CNIC is entered, a verification code is sent to candidate's email and cell phone and this code is required to be verified from both ends
- Tab 1: Demographic information
  - Personal details
  - Address linked with google map
  - Name and ID card no. of both parents as well
- Tab 2: Educational background
  - For matric and Intermediate: Individual courses along with marks are required to be filled
  - For O and A-levels, 8 and 3 principal subjects along with grades are required to be entered
  - Soft copies of educational documents are mandatory to be uploaded
- Tab 3: More information
  - Personal statement
  - SAT/GRE/GMAT scores
  - Experience for graduate students
  - Financial support including details of the sponsor
- Tab 4: Preview
  - Overview of the form
- Tab 4: Finalize
  - Submission of form
- Tab 5: Apply for a program
  - Selection of a program
  - Generation of automatic fee voucher
  - Generation of Admit cards after fee clearance from the bank
- Tab 7: Prospective Student / IBA Student – History
  - History of all the tests taken (Admit cards / scores)
  - ERP # (Applicable to those who passed and were matriculated into the IBA ERP system)
  - For students with ERP# the next models would become available (Complete academic & other Document submission, Financial Aid module, hostels, transport, on-campus jobs, Program office modules)

Note 2: Question bank:

Admin interface

- **Login**
  - Log in by the Administrator
- **Assignment of rights to faculty members**
  - These rights are delegated either for the entire paper or for specific subjects/areas
  - Faculty members will receive
    - Login credentials
    - Time bound tokens for incorporating the questions

User / faculty interface

- **Questions Menu**
  Select Question menu to add the questions
- In adding the question, following are the options:
- MCQs
  - Select Subject (Mathematics, English and other subjects)
  - Select topic (Algebra, Trigonometry, Geometry, and related topics)
  - 4 Options to select the correct answer
  - Select the correct answer to generate the answer key
  - Select Difficulty level by Moderator (Easy, Normal & Hard)
  - Solution / Notes (if required)
  - Question Source
  - Duplication of questions is restricted by highlighting the similar text from the existing question pool
- True & False *(in process)*
- Short questions and answers *(in process)*
- Case studies and essays *(in process)*
- **Search Criteria**

  After completing / adding the paper, click on Search Criteria menu to select the questions depending on the difficulty level, topic-wise, no. of question each section, and date range.
- **Generate Paper**

  On action of Saved Criteria under Search Criteria, the moderator / paper setter can be able to generate the paper under the menu Generate Paper. The paper setter will select the Year / Semester, Paper date, Title of the Test, and Instructions from this menu to generate a paper.
  After generating the paper, the moderator will check and finalize the paper by clicking on the lock button to freeze this and forward it to the testing department.
  Note: The paper setter will also access all the paper generated previously.

Note 3: Online Test Scheduling:

- Testing windows for the next 60 days will be available after payment
- These windows can be selected from the online registration portal
- Testing windows can be changed within 24 hours in case of an emergency and an automatic notification should be sent to testing dept. and student for record
- The test duration for undergrad programs is 2 hours and 20 minutes, however 2 additional time slot have to be incorporated to streamline the testing process
  - Students must report 15 minutes prior to the test for verification of identity and testing instructions
  - 30 minutes' gap between each test slot
- 3 time slots per day should be available for all 7 days of the week

Note 4: Online Testing:

- **Admin Interface:**

- Paper Setup Setting(s)
  - Subjects – Total Subject Questions – i.e., 45 MCQs
  - Topics (within subject) – Questions of topics within subject i.e., 10 MCQs each
  - Used and unutilized questions – System will provide 2 options before setting the test
    - Select all questions
    - Select unused / new questions
  - Difficulty level
    - # of E / M / H – topic wise – this will be activated now on teachers' recommendation
    - Difficulty levels will be reassigned in the future after incorporating the following 5 fields
- Assign Difficulty Levels – 5 fields
  - Track Time to solve
  - Track correct or incorrect answers
  - Track overall score of topic / subject / test
- Randomization Algorithm:
    - Should be changeable on short notice (within couple of hours)
    - Randomize the entire databank starting with the easy questions and then moving towards medium and hard ones
    - Randomization will be applicable for both questions and options
    - Cycle the entire DB before recycling the questions
- Additional points:
  - In addition to the MCQs, case studies and essay options will also be available in the question bank and testing software
  - Dashboards and sub-dashboards are required rather than reports
  -

- **<u>Student / Test Taker Interface:</u>**
  - Store the following
    - Facial Recognition through cameras
    - Thumb Impression devices – connected with NADRA
    - Scan the Bay form / NIC / NICOP / Passport – provide one of any of the acceptable IDs mentioned here
  - Test taking:
    - Sign in screen
      - Admit Card Number
      - NIC / ID number
    - Test Instructions Screen
      - Accept the terms
    - Start the test:
      - Subject wise and then topics within the subject
    - Results:

- One test per window
- Results available right away – score only
- Cut-off to be disclosed in 3rd month of each window
    - Direct
    - Through Interviews
        - Online marks entering
- Results become part of the online student profile

- Charges:
    - PKR XX per IBA Test
    - PKR XX per program – admissions processing charges
        - BBA / ACF / SS / ECO – one test acceptable
        - CS / EM – one test acceptable
    - SAT Pricing?

- **Testing Windows:**
    - October / November / December – Window 1
    - January / Feb / March – Window 2
    - April / May / June – Window 3
    - Cut-off of each window would be different

Note 5: Determination of cut-off (no. of seats) & Results

- Cut-off score is based on budget seats per program and test rounds
- Cut-off scores are segregated for SAT and IBA test
- Candidates for direct admissions and interviews are selected manually
- Interview dates are announced on the basis of lower cut-off as compared to direct admissions
- Successful candidates in the interview process and spill over to programs of lower cut-off are shortlisted manually

Summary of Note 4 & 5

- Results would be generated through internal testing
- Results would be allocated // assigned to the prospective student
- Overall Cut-off to be assigned to determine Direct Admissions / To Interviews / Failures
- To Interviews would be interviewed and marks would be assigned to each interview
- Interview Cut-off would be decided to determine admissions through interview / failures in interview – Admission Denied
- These Results to become part of Student Profile in the online registration portal

Note 6: Matriculation of Successful Candidates (Converting Candidates to IBA Students)

- Documents checklist including fee challan to be completed by the student and upload all required documents by a certain date. Some documents can have different dates and matriculation / conversion of candidate can move forward

in absence of one or two documents, but the process would be reversed and admissions would be null and void if dates are missed

- Program office would compare the original documents of the student and mark the digital documents "Original Seen" with the tag of the employee verifying the documents. Physical / original documents would be returned to the student and the digital repository of documents would be secured
- Only after this module would the candidate be designated "IBA Student" and if certain allowed documents still pending candidate would be designated "Provisional IBA Student"
- After getting the "Provisional IBA Student" or "IBA Student" designation the student would now be eligible and will have access to all the modules i.e. Program office / course enrolment, Financial Aid, Hostels, Transport, On Campus Jobs to name a few.

Note 7: Program Courses / sequence wise entering / Approval & Monitoring

For the software development, following information will be provided to develop an efficient course management system.

i. Number of programs being offered at IBA (Undergraduate, Graduate and Postgraduate)
ii. Duration of Program (Full and Part time studies)
iii. Courses' structure Program wise (Core, Elective and Non-Specialization courses for all programs)
iv. Semester structure for all programs (number of core, elective, NS specialization courses in each semester)
v. List of Pre-requisite courses
vi. Units of each course
vii. Unit limit in each semester
viii. Grade history (to learn about the deficiency)
ix. Deficiency of courses
x. Transfer students' information
xi. Demand Analysis

Note 8: Dashboard of Chairperson / Faculty Data described

The Chairpersons' dashboard will display all the information relevant to the faculty members, such as:

i. List of all faculty members – Full time/Part time
ii. List of departmental faculty members (department wise faculty names)
iii. List of visiting faculty members
iv. Faculty member's courses' teaching history
v. Faculty members' preferences for teaching
vi. Faculty Evaluation

In addition, the Chairpersons' dashboard will also display the interfaces for accurate demand analysis, assigning faculty members for teaching a course, taking faculty's preferences for scheduling, and reviewing students' information.

Note 9: Dean approval for course allocation after cut off and initial submission

As soon as the schedule will be generated by the system; a notification will be sent to the Dean for approval. Any change in the schedule (faculty timings and creating a new section) will require an approval from the Dean.

Note 10: Entering the academic Program into the system

For every program being entered into the system there is a checklist which needs to be created first and then followed. This checklist would contain documents to be uploaded to complete the checklist and also would have the courses to be entered into the program along with the courses tagging (pre-req, co-req, core, elective)

Note 11: List of courses Semester wise for next 4 years

The software will be provided with the list of all the courses semester wise for each program for next four years. This will help to generate the accurate demand analysis and the Chairpersons can pick the course(s) while working on the interface for the scheduling.

Note 12: Class type - Regular / Mega / Lab

Software will be provided with the list of venues available at IBA. Software will auto-assign the venues to each class as per the nature and type of classes.

Note 13: Available Faculty - List with features - Student Rating - Historical courses taken - last semester where course was taught - List faculty available across departments (HR Needs to connect) - Faculty allocated courses across institute and department

For software assistance, following information will be provided at the time of software development which will be kept on modifying:

i. List of all faculty members – Full time/Part time
ii. List of departmental faculty members (department wise faculty names)
iii. Faculty member's courses' teaching history
iv. Faculty members' preferences for teaching
v. Faculty Evaluation

Note 14: Faculty Allocation - Matching

Based on note 10 (above), the system will design the interface that match the faculty profile with the upcoming courses to be taught and show in the interface accordingly.

Note 15: Number of Core / Electives courses being offered

The courses' buckets for each semester will be well defined in the software. This will restrict student to select a course which is not permitted to him/her as per his/her respective plan of study. This includes but not the limited to the number of core, elective, NS elective, pre-requisite courses.

Note 16: Reports - Course wise faculty taught previous years

The Evaluation for faculty members by the students for the courses taught in previous years and semesters will be available to Faculty, Chairpersons and Deans. This is confidential reports and therefore, restricted to the specific users only.

Note 17: Preferences for full time faculty members (Timings / Days / Campus)

The software will suggest the full- time faculty members while designing the schedule to the Chairpersons. In the interface, the first option that the Chairpersons could view under the heading Faculty Names will be the names of Full-Time faculty members (to appear in drop down). There will be a button to click on, labeled as *'Show all faculty members names'* through which the Chairperson can select and assign the visiting faculty members for teaching any specific course.

Note 18: Requirements for Visiting faculty (Timing / Days / Campus)

When the Chairpersons will select the Visiting Faculty member for teaching a course (as mentioned in note 14), a comment button/section would appear to enter/write the reason for selecting the visiting faculty member. This comment will be visible to the Deans when the schedule will be sent for approval.

Note 19: Students' Matriculation by the Program Office

Program Office to pull students' information from Admissions data. Populate the list in the ERP. Students will be advised to visit program office with original documents; Program Office to verify all the details from the physical documents and mark original seen, also ensure all documents present in digital form in the system. Only then the matriculation process would complete, and students will be eligible for enrolment and other student services

Note 20: Generate Demand - 4 years

Based on the number of students given admissions to /enrolled, and the program along with the courses entered into the system; the system would generate demand of courses for the next 2 to 4 years. Based on the actual enrolments and usage the system would re-adjust every semester and show demand on real time basis

Based on this demand analysis the chairperson would be able to allocate / assign faculty to these courses

Note 21: Program Course Sequence - Semester wise

The software will be provided with the programmatic information including all the courses and all the courses semester wise. This detailed information will further strengthen the automation.

Note 22: Completed and Pending courses

Software will allow students to manage their courses, course mapping, learning the status of courses, course registration, check the result and learn about the courses' structure.

Software requirements for students to display:

i. Study Progress
   a. How many courses are completed?

b. How many courses are left?
c. Customized plan (by pressing a button to show which courses to be taken in the up-coming semester)

ii. Checking the grades
iii. Calculate CGPA/check CGPA
iv. Assignment submission
v. Checking attendance

Note 23: Course Selection for 1 year 1st semester Students

After the student Matriculation and ERP ID generation, Year I Semester I students will be able to register themselves in their allowable courses:

1. Click on program (from drop down)
2. Click on semester (from drop down)
3. Timetable will be available to view and decide on the classes
4. Select the course(s), provide the class numbers
5. Click on Register

Note 24: Waiting List with Automatic enrolment when room created in the class

For the classes, where students wish to register but unable to do it because of the cap size reaches the limit, a wait list will be created. As soon as there is any space available in the class, the waiting list will be started to accommodate.

Students who no longer wish to take the specific course, will have rights to remove themselves from the waiting list.

Note 25: Add / Drop / Swap

After the registration (adding a course) and dropping a course within the given timelines; students will also have rights to swap a course throughout the registration time period. Swap option allows students to drop one course and get enrolled in the other course at the same time without risking the chance of losing both. However, swapping courses can only be done within same course list. A core course can be swapped with another core course and an elective with elective course. A student cannot swap a core course with elective course and vice versa.

Note 26: Extra 6th course automatically allowed when a deficiency exists

As mentioned above about the courses' buckets and permission for taking the courses as per each student's individual plan of study, the software will also allow taking an additional course (6th course) in case of course's deficiency. However, this additional course will require the permission from the designated staff/faculty members and/or chairpersons.

Note 27: Extra course allowed if the student is already in the 7th or 8th semester

Since the software will be linked with the students' advisory report (examination), therefore, software would allow an additional 7th course if the student is in the 7th or 8th semester. This will be verified by the individual student's advisory report and/or provisional transcript.

Note 28: Class Cancellation, Last date of enrolment set and Last date of withdrawal set

For helping the program office, the schedule for the registration be auto defined/generated by the software and address the following:

- Which program and year to be registered on which day/dates/timings.
- Which courses will be open for registration (Core, Elective, NS Specialization)
- Which facility will be available on which day/date/timings such as add a course, drop a course & swap a course
- What are the cap size for the courses and what is the minimum cap size for offering a courses?
- Auto de-enroll from a course if not meeting the minimum cap size and auto enroll the students in other classes (keeping in view the individual student's schedule)
- Which day will be the registration for the transferred students and what courses to be offered to them
- Last date for the enrolment and swapping the course(s)
- Last date for the course withdrawal (online form to be available for withdraw a course which will be auto sent to the faculty members for approval and then to the respective program officer for necessary action)
- Class may be turned to cancel any time and all students enrolled must be dropped and System notify students via email and must recommend other sections which student can enroll.
- Stop further enrolment in Classes
- Add consent to enroll and drop
- Auto enroll feature LEC students enroll parallel to LAB and drop in a similar way

Note 29: Transfers / Program Change

As soon as the student clears the test and eligible to transfer to another program, the admission office will notify the Program Office. The status of the students will accordingly change to (a.) transfer student, (b.) update the program.

The change in status (as transfer students) will also change the plan of study for the student. System regenerates the course sequencing and places the student as per the new program.

Note 30: Automatic Scheduling based on faculty requirements and or preferences

This includes the scheduling and time tabling for which specific parameters will be defined such as equal opportunities to the relatively bigger venues, Restriction in the cap size and choices for the slots.

A graphical interface (or a dashboard) will be designed for faculty to select preference from drop down menu. The software will auto-generate the schedule after auto-picking the information from the interface

Faculty should also be given an option to enter Student Counselling Hours.

Note 31: Available campus and rooms available with capacity - tagging

The interface will take care of the proper allocation of venues to the specific courses. The class type will aid the software to assign suitable and available venues.

Note 32: Algorithm of assignment

All the academic and administration tasks will be distributed among the different departments at IBA, openly, which will keep on reviewing and redistributing as per need. The restriction of using each segment of the software should/will be flexible to address such a change.

- The word algorithm needs to change to 'Process' or 'Mechanism'
- The point basically means that there must be enough flexibility in our processes that the Program Offices module should be able to adjust to changes that may academically or administratively every year.
- We would not ideally want a setup that would allow Program Offices to evolve as our requirements evolve.

Note 33: Financial Assistance

Process:

1. After securing admission in the IBA, an automatic form will be open for all candidates.
2. The contents of the form will include the following parameters:
    a. CNIC of Siblings
    b. Salary slip or salary certificate (or pension slip) of all earning family member(s)
    c. Bank statement for last one year of all family members having all accounts.
        i. System should automatically pick Opening & closing balances
        ii. Annual Inflows & outflows
    d. Income tax returns of all earning family members for last year.
    e. Fee bills and any concession document from the last institution you have attended.
    f. Educational institutions and expenses of all siblings
    g. Utility bills last six months.
    h. Electricity ii) Telephone iii) Gas iv) Water
    i. Saving certificates, bonds, shares, investments, CDC account statement.
    j. Property ownership documents, including agriculture land, plots and houses.
        i. Linked with google map
    k. Rent agreement (if applicable)
    l. Loan document(s), including credit card bills and bank loan statements.
    m. Medical bills / expenditure related documents.
    n. Latest fee challans/Fee concession (scholarship/loan) document(s) of sibling(s).
    o. Wealth statement for all family members for last year (If applicable)
    p. Domicile certificate.

q. Any other relevant document(s) necessary to support your application
r. Statement of purpose.
s. Undertaking from the students

3. Criteria for evaluation:
    a. Initial screening
        i. A point-based system is suggested for evaluation of financial assistance
        ii. The points of all applicants should appear in the following manner:
            1. Highest to lowest
            2. Highlight top & bottom 3 areas for point scoring
    b. Final screening
        i. Information is available to FA committee members through dashboards coupled with a comment section
        ii. All cases are presented to the committee for assessment
        iii. Committee members should be allowed to enter comments in the system during the evaluation process
        iv. Financial assistance should be linked to the following areas:
            1. Educational performance
            2. Change of circumstances
            3. Should be time-barred and reviewed each year
4. Successful candidates will automatically be notified by the system
5. Monitoring of performance
    a. Semester-wise educational performance of students should be viewable by the committee members
    b. If the performance drops below the assigned threshold, then automatic notifications will be sent to the committee members and students
    c. Counselling of students is required in case of deterioration in educational performance and the following course of actions can be taken:
        i. Warnings
        ii. Termination of assistance

Note 34 & 35: RA / TA Module and On Campus Jobs

- This module would be part of the Financial Aid
- Faculty members would post their job along with requirements in the system. Requirements would be GPA, previously has taken a certain course, student of a certain program.
- Chairperson would approve the job for posting
- Job would be broadcasted to all eligible students
- Students will apply and show interest in the advert
- Faculty would be able to see the applicants. He / She will invite them for the interview and select the candidate and mark accordingly in the system
- System would assign the number of maximum number of hours allowed as per policy along with the date range of the hiring
- Student would enter the hours in the system along with the details of work. Faculty would approve the same

- Approvals would be forwarded to the HR to check compliance and Finance to process payments

Note 36: Boys / Girls hostels

Process:

1. After securing admission in the IBA, an automatic form / module will be open for all candidates.
2. The contents of the form will include the following parameters:
    a. Currently the system works on first come first server basis but some incremental variables are proposed for this new system and that include
    b. Outstation candidates
    c. NTHP candidates
    d. Priority for orphans
    e. International students
    f. Undergraduate / Graduate level
    g. Disability
    h. Full time / part time basis
3. System will automatically filter the eligibility criteria and will forward the following lists to the warden for approval
    a. List of allotees
    b. Waiting list
4. After approval system the following documents will be generated:
    a. Confirmation email to all the students along with the fee voucher
    b. Payment will be confirmed through finance dept.
    c. Automatic allotment of rooms
    d. Undertaking from the students to abide by the hostel rules
    e. Tokens no. for students on the waiting list
5. Profiling of all hostilities:
    a. Integration of Visitor log data provided by IBA
    b. Late fee submissions
    c. Usage of mess
    d. Warning letters
    e. No. of residential extensions
    f. Membership of hostel societies
    g. Termination / exit dates

Note 37: Transport

1. After securing admission in the IBA, an automatic form / module will be opened for all candidates.
2. The contents of the form will include the following parameters:
    a. All routes will appear with the following information:
        i. No. and names of stops
        ii. Timings for each stop
        iii. Capacity and no. of available slots
        iv. Expected duration of journey (peak and off-peak durations)

v. Vehicle no.
vi. Transport charges
vii. Schedule for the whole year

3. System will automatically generate the following documents:
   a. List of students
   b. Waiting list (if any)
   c. Fee voucher
   d. Transport card
4. Payment will be confirmed from the finance dept.
5. Tariff Allocation for Transport Points (Buses)
6. Student Alerts for points in case of in-service of point

Note 38: Examinations

Preparing examination schedule

The schedule will be prepared with the interface. The interface will be provided with the dates during which the examination has to be scheduled. The system will check for the students registered in different courses to avoid conflicts and accordingly produce the exam schedule for each course semester-wise. This also includes assigning of venues automatically by the software

Duty Management Operation

As soon as the schedule is ready and finalized, the next operation will be assigning invigilation duties to the faculty and staff members. The list of eligible staff is built in the software which will be used for assigning duties in each venue through automation. Exam Remuneration will also be calculated from this system

Regulations

The software will not let those students appeared in the exam who does not meet the prime regulations. It includes but not limited to the attendance, any disciplinary action.

Degree Audit

Examination Department would mark the students as "graduates" upon completion of the courses as per the regulations (Courses, minimum GPA).

Automatic report would be generated for the entire graduating batch where the compliance would be checked. Compliance can be checked for all the current students as well

Other Features

- ~~Generating Students' Admit Cards~~
- Printing Students Attendance Sheets
- Workflow based Receipts for Submission of Question Paper and Answer Scripts by Faculty and Staff Members
- Exam Envelop Label Printing

Note 39 / 40 / 41: (Registrar Office Alumni Services)

Digital Central Repository of all the student records including but not limited to Transcripts, Degrees & Awards. Automatic Student Record Verification services would also be provided for the students / alumni when they apply for admissions and or employment.

Depending on the API availability Integration with LinkedIn to update Alumni Profiles & employment history.

Note 42: Fee Setup

System will allow configurable Fee setup based on Academic Terms

1. Fees would be setup as mentioned below:
    - Course wise
    - Credit Hour Based
    - Fixed Fees
    - Project course fees
    - Program based
2. System will maintain different item types to manage the fees such as:
    - Tuition Fees
    - Student Activity Charges
    - Admission Charges
    - Transcript/Degree Charges
    - ID card Fees
    - Transport Charges
    - Library Fee
    - Late/Overdue Fine
3. Create multiple groups of tuition rules, enabling you to charge tuition and fees to groups of students based on criteria.
4. Delegate entry of receivables and payments. Permit only authorized users to post these transactions.
5. Item Types security. Authorized users have access to specific item types only.

Note 43: Charges & Payments

System should have following features to apply charges & payments in every Academic Term.

1. Fees will be charged automatically based on enrolment and fees voucher will be send to student via email.
2. Fees will be reversed / updated automatically if student drop course until certain date.
3. Late fees will be charged automatically if fees not paid within due date.
4. Scholarship will be applied automatically based on % approved.

5. System should provide facility to apply Charges & Payments in Bulk (Excel/CSV file format)
6. Refund functionality should be Integrated with AP Module
7. Functionality to configure / Apply fee Waiver
8. Functionality to create & track Fee Instalment plans.
9. Once the semester ends, system should not allow to make entry on back date.

Student Billing

1. Create Unique bills for student for particular term.
2. Generate invoice based on the bill for students which include the previous outstanding balance along with current term outstanding balance.
3. Decide whether anticipated financial aid amounts from Financial Aid should appear on the bill and if they should be included in the student's account balance.
4. Sort bills by several different attributes, such as campus, academic level, academic program, name, zip code and more.
5. Cancellation of any bills and generate new bills with updated Due Date.

Note 44: Tax Calculation

System is expected to have well developed Tax Calculation functionality which has following mandatory features:

1. Option to maintain status of students as filer / Non filer for particular financial year linked with FBR site.
2. Percentage of tax and taxable amount should be configurable.
3. 5% Tax will be charged automatically to students whose parents/guardians are non-Filer and total fees charged is equal to or above 200,000.
4. Option to maintain tax payment made to FBR in the system.
5. Non filer can be filer in any week, so in that case if tax was not paid to FBR, system has to reverse tax automatically.
6. Tax charged/paid to FBR before he become filer will remain exist in the system, there will be no change in the system however for next work, no tax would be charged in case he/she become filer.
7. Tax paid to FBR, must be in the system against each ERP to know the remaining tax if require.
8. Obtaining/collection of CNIC number of fee payer should be available in SF.
9. CNIC/NTN available in (FBR) integration with CNIC/NTN available in SF to know filer or non-filer status.
10. Tax challan should be generated automatically and available to students.
11. IBA shall provide API from FBR (if available) for integration

Note 45: Student Financials Reporting

System is expected to deliver following reports

1. Student Ledger Report

2. Aging Detail Report
3. Aging Summary Report
4. Refund Detail Report
5. Tax Detail Report
6. Item Wise Report
7. Fees Receipt Report

Note 46: Course Catalog

- Defining courses along with their course code.
- Course Code can be different for different career level
- Course Attributes: Core / Elective
- Courses components: Lec / Lab/ Project/ Thesis/ Tutorial
- Change of Course code must be approved by Chairperson and new code must be effective for next scheduling
- Course code must be verified from Departmental assistant every semester and verified courses will be available for new semester scheduling

Note 47: Pre-Requisites & Co-Requisites

- Advance level Course can be enrolled in upcoming term, if student has taken course in current semester.
- Post enrolment action performed automatically by dropping the advance course if student is not pass in pre –Requisite.
- Pre- Requisites should be configurable to accommodate AND/OR operations, conditions, requirements.
- Course(s) or course list, within course list may be condition of taking no: of courses from sub course list or no: of units taken from sub course lists.
- Specific condition, requirement must be highlighted to student. (e.g., among the 3 courses, one of the courses is not satisfied).
- Pre- Requisites differ for different programs
- Changes in Pre- Requisites must be effective for Next semester
- Pre-Requisites must be verified by Departmental assistants every semester and if not, system override the pre- requisites and allow students to enroll in course without completing pre- requisite.

Note 48: Class & Attendance Roster

- List of Students enrolled in the classes along with their Pictures
- Facility to send important messages to class students via email / SMS
- Attendance roster must be generated automatically according to Class scheduling
- Configurable screen of defining no: of due days for freezing attendance after marking attendance
- Dean approval for unfreezing attendance date for edit
- Request workflow from student(s), instructor and dean must be defined.

- Extra / Makeup classes can be added easily from instructor access
- New enrolled, drop & withdrawal must be updated automatically.
- Delete dates automatically of holidays, mid-term exams (Academic Calendar must have table of holidays and exam dates)
- For managing extra class instructor must have report of Student timetable. Which identifies free slot of student.

Note 49: Students Grading

- Setting up Grade plan:
  - Assignments
    - Defining Assignments with Max Marks and could accept decimal value. (Categories: Quizzes, Home Assignment, Mid Term, Presentation, Projects, Final)
      Note: Defining Categories must be configurable to add more categories
  - Define Category Weight of individual Assignment Category.
    - Can accept decimal values
    - Sum of Weightages must be equal to 100.
  - Grading Scale
    - Default Grading scale must be attached to each class/section
    - If instructor want to do Relative grading, there must be choice and on selection of Relative grading blank grade scale page appears
- Entering Marks
  - Excel import will be allowed
- N-M Policy
  - After entering all marks, teacher is allowed to run process N-M policy
  - In case of multiple assignments and N- M process is not run, then system should as instructor before final posting and locking grades
- Deadline for Posting Grades semester wise
  - Can be configurable to class wise give exemption to instructor
  - The exemption workflow for instructor and Dean is required
- Two factor Authentication on Gradebook access (Using Email/SMS code)

Note 50: Faculty Evaluation

- It is recorded anonymously
- Evaluation has question from three different domains
  - Course
  - Instructor
  - Other (for Online/hybrid class related)
- Responses are:
  - Strongly Agree
  - Agree
  - Satisfactory

  - Disagree
  - Strongly Disagree
  - Comments
- Number of questions & their responses should be customizable as they may vary for different academic terms
- Open & Close dates to be configurable to allow students to do the evaluation during specific days.

Note 51: Students Portal

- Complete student Profile along with academic background and other details
- Notifications and alerts on Dashboard related to Enrollment deadlines, Registration deadlines, Exam schedules, Semester start dates, Conferences/Seminars/Events dates.
- Enrollment shopping cart to select courses for enrolment according to defined course lists & enrolment limits of core & elective courses
- Facility to Add/Drop/Swap courses during enrolment cycle
- Student Planner to advise courses according to chosen career track
- Detailed class timetable along with room location
- Detailed Financial Ledger to view charges/payments/tax deduction.
- Attendance record for each course
- Official Grades & marks secured in each category of respective course.
- Online forms to submit applications for Makeup Exams, Attendance, Credit Transfer, International Summer program, Information session, Visa Letter, NOC for USEFP Programs, Exchange programs, Financials Assistance, Internal transfer, Recommendation letter for internship, Counselling Appointment, Degree/Transcript and English Proficiency Certificate.
- Submission of Internship details along with submitted Internship Report.

Subcategory: **Ticketing**

- On logging, system automatically fetches academic data of the student including all courses done and enrolled.
- There should be drop down for the type of issue, department or office concerned, text for more information, semester concerned.
- The student should submit the query and a ticket number is assigned.
- The query should appear at relevant office's portal (Program Office, Dean, Chairperson) in the system.
- Along with this query, the system should report all previous queries of the student concerned.
- The student should get the status of their query all the time on log in the system and should get notification through email of any workflow step forward or closure.
- The concerned offices should get reminder for outstanding queries.

Note 52: Term Activation & Enrollment Appointment

- Term activation for all the active students.
- System will have the option to identify students with respect to the semester
- Setting up enrolment appointment for students based on their semester / CGPA
- Functionality to process enrolment on individual basis as well as in bulk
- Enrollment Class permissions:
  Allow individual student to enroll in class/ Section to override restriction of
  - Add consent
  - Closed Class
  - Appointment
  - Career restriction

- Drop Class Permission:
  Allow individual student to drop having drop consent on class level

Note 53: International Exchange Program / Transfer

- Student Apply for Exchange program
- Selection and Financial assistance from IBA
- Course done in other University/College/ Institute and their equivalency in IBA
- Courses include in CGPA, if exchange program done in top 100 university, if not then only credits will be counted

Note 54: Examination Department's customized Policies

Courses Repeat Policy

- If course is excluded from any of the term, the old CGPA must be kept as record

Courses substitution

Course equivalency

Academic Standing

- Drop Criteria
- Probation Criteria

Test Credits

If student submit report or give present for the exemption of any specific course.

Academic Awards

- Dean list
- Gold Medalist

Comprehensive Exam Attempts

- The student is not allowed to give 4th attempt of MBA comprehensive Exam. Such cases may be different for different programs.

Note 55: Student Leaves / Return from Leave

- **Apply for Leave**

If Student applied for leave within 15 days of session start, then his/her courses will be dropped, and his/her name will be automatically disappear from Attendance and other rosters of courses and fee will be refunded. And if applied after 15 days of session start then "**W**" grade will be marked and no fee will be returned.

- **Return from Leave**

  Once the student is returned from Leave, Program Officer will update the status and the career level of the student in the system

Note 56: Student Clearance for Degree / Transcript

Following departments will provide clearance to students to qualify for Official Degree & Transcript

- Finance (On clearing any pending charges)
- Hostel (On clearing Hostel dues if any)
- Career Development Center (On successful completion of Internships)
- Library (On returning all the issued books and paying fine if any)
- Examination (On completing degree requirement)

Ideally system should automate all these clearances based on available data in the system

Note 57: Managing Convocation Activities

Graduating students who wish to receive their degrees in Convocation can submit their application. Once the application is submitted, a clearance check is required from Examination and Finance Department which assures that there are no dues pending against this student. Once the clearance is marked, student can then register its guests who wish to attend convocation. Admin department will finalize the list of graduating students along with their guests and then print stickers/Gate Passes in order to allow them to enter convocation marquee.

Note 58: Societies Election System

- Enable students to register for maximum 3 societies.
- Enable students to nominate themselves for any position in a society. (Positions may include Vice- President, General Secretary, Treasurer, Campus Coordinator)
- Pre-defined eligibility criteria to restrict ineligible students from sending their nominations (Customizable criteria based on CGPA, number of semesters studies, Program of Study)
- Online voting access through system to conduct free & Fair elections

Note 59: Experiential Learning Program

Upcoming projects list is uploaded to the system by the CDC department to enable faculty members to select the projects as per their interest level for the supervision. Selection of project is done can only be done on configured dates in the system and

every faculty is restricted to select not more than 6 projects. Once the selection is done, a final list is published to show projects along with their assigned supervisors.

Note 60: Portal Administration

- Creation of User profiles based on user type (Students/Faculty/Staff)
- Configurable Password setting Policy & Expiry Dates
- Option to enable Two factor authentication on the use of new browser (sending security PIN code using SMS/Email)
- Email & SMS alerts on system login
- Configurable email templates for Login Alerts

Note 61: Roles & Permissions

- Creation of Roles & Permission lists based on job specific roles
- Facility to allow Create/Read/Update/Delete roles for all the screens/pages of Portal.
- Customizable Roles & permissions for text fields used on all the screens/pages
- Facility to generate Access Control lists in Matrix form

Note 62: System usage & Audit Logs

- Tracking of all the user activity related to Create/Read/Update/Delete roles on all the screens/pages of Portal.
- Detailed Access logs for users accessing the Portal.
- Detailed logs for all the user operations along with Date, Time, IP Address, Location, MAC Address.

Note 63: Query Manager

- Functionality to develop queries to extract data from the system.
- Query manage should allow to create queries for multiple tables using several types Joins (Inner, Left outer, Right outer)
- Facility to create queries that include sub-queries as well
- Query Manager should support all kind of operators (AND, OR, Like, Between, greater than, equal to, less than and other similar operations)
- Query Manager should support all aggregate function (Sum, Avg, Min, Max, Count)
- All other query writing techniques that include but not limited to Group By, Order by, Having and other query writing practices.

Note 64: Reports Manager

- Drag & drop tools to create several types of reports.
- Report Manager must have functionality to create tables, charts & graphs to display data in reports.
- Must have functionality to show data grouping.
- Drill-down feature on reports to track origin of data.

- System should allow all reports to be exported in Html, Excel, Pdf & Doc format.
- Interactive & Intuitive interface to view reports.
- Run-time filters on reports to view specific data based on filters (Date Range, Year, Specific ID and other relevant filters)
- Category & Roles based management of reports to allow specific users to view the report.

Note 65: Integration with Student Financials

- Item types mapping should be configurable and integrated with MS Dynamics.
- Unearned Revenue accounting entries should be created automatically when post charges / others to student account based on mapping.
- Unearned to earned revenue accounting entries should be automatically created based on setup and moved to GL.
- Journal ID should be assigned automatically when moved to GL and it should be updated in SF module as well (Two-way integration).
- Detect and report chart of accounts errors before entries are sent to the general ledger.
- System should automatically trigger if any error encountered.

Note 66: Online Payment Integration with Banks

- API to be developed for the integration of Banks with our system to track all types of online payment received from students or vendors.
- Real-time data to be fetched to track the payments instantly.
- Payment types can be but not limited to Tuition Fee, Transport Fee, Hostel Fee, Vendor Payment & Registration Fee.

Note 67: Integration with IBA Websites

- System should be seamlessly integrated with our website to display Faculty Profiles along with basic information and profile pictures.
- Research related data should also be integrated with our ORIC Portal.
- Data related to Academic Background, Courses Taught & Undertaken projects by faculty members must also be displayed on specific pages of our websites.

Note 68: Integration with SMS API & SMTP Services

- SMS API should be integrated with all the major operations of the system (Request Submission, Approvals, Rejections, Gradebook PIN Code)
- Email alerts should be configured using our SMTP services to generate email alerts on all the basic (Login Alerts, Workflow Updates, Class Reschedule, Request Submission, Approvals, Rejections, Gradebook PIN Code)

Note 69: Integration with Attendance Machines

- Integration of Data logs provided by IBA

Note 70: Integration with LDAP

- System should be integrated with LDAP (Active Directory User Management) to ensure the use single Sign-On functionality to log into newer system.
- Real-time synchronization of data

Note 71: Data Integration

- All the data should be Integrated to newer system from existing systems including PeopleSoft ERP Campus system

Note 72: Recruitment / Hiring through In-House Job Portal

- Availability of updated and dynamic record of the students and graduates
- Instant job search
- Formation of multiple CV which a user can refer to while applying for different jobs/internships
- Career Resources section to help students and graduates know Experts opinions and perspective about different fields
- Swift job requisition/posting through online mediation
- National / Multinational Employer Registration
- Shortlisting, Interview Scheduling & selection status of candidates
- Platform for employer branding

Note 73: PhD Scholar's Research Workflow:

System must handle, research cycle of all PhD scholar with timelines and milestones:

- Completion of Course work
- Comprehensive Exams
- Submission of research topic
- Proposal Defense
- Supervisor Comments
- PhD Supervisor Committee and their approvals

Note 74: Data Uploading in Bulk

Most of the times we require data to be uploaded in Bulk on various navigations. These include missing data of Applicants, Attendance Records, Students' Marks & Grades and Class Enrollment. System should provide a feature to upload data in bulk through Excel or CSV files.

Note 75: Leadership Decision Making

Following information will be available to check/see through the dashboard of each department for **Last Ten years**

ADMISSION

1. Number of applications
2. Number of applicants appeared in the test
3. Number of applicants cleared the admission test

4. Number of applicants appeared in the interview
5. Gender information for each of the above headings (1-4)
6. Demographic information for each of the above headings (1-4)
7. Last qualification of the applicants
8. Last institution attended by the applicants
9. Range of percentages/results secured by the applicants
10. Program-wish division of the above information
11. Number of applicants joined their respective programs (program-wise information)
12. Gender information for students joined the program (admitted in a given year)
13. Demographic information for point 11
14. Current status of study for any student admitted in the given year

TESTING

1. Distribution of questions to English, Mathematics, Logical Reasoning (in any given year)
2. Cut offs for each component
3. Information for the interview panel each year
4. Round(s) of tests conducted
5. Number of applicants cleared the test in each round of test
6. Questions' data bank information (number of questions added)

FINANCIAL ASSISTANCE CENTER

1. Number of applicants applied for Financial Assistance
2. Demographic information for the applicants
3. Number of applicants got the approval of Financial Assistance
4. Percentage of Financial assistance to the tuition fees in any given year
5. Gender information of the applicants
6. Number of applicants having self-employed guardian
7. Number of applicants having government employed guardian
8. Number of applicants having guardians working in private organization
9. Number of applicants whose sibling are also studying at IBA or have studied at IBA
10. Average income expense gap for applicants who were provided with financial assistance in any given year

Graduation – Institute Support Services

1. Facilities provided by IBA
2. Number of alumni avail facilities at IBA
3. Number of alumni cards renew every year
4. Number of Letters requests received by the office
5. Average number of degree audit requests

ALUMNI

1. Number of students graduated each year

2. Number of students graduated – Program-wise
3. Number of Degrees & Transcripts Issued
4. Demographic information of alumni
5. Gender information of alumni
6. Number of alumni in contact with Alumni office
7. Number of alumni employed
8. Number of alumni unemployed
9. Number of alumni working in different sectors/employment information (information for all sectors separately: FMCH, Health, Education, Manufacturing & others)
10. Number of alumni who were recipient of IBA financial assistance program
11. Number of alumni reside outside Pakistan
12. Number of alumni continued studied at IBA (from Undergrad to Graduate program)
13. Number of alumni continued to highest studies (e.g. PhD, Post-Doc)

HOSTELS

1. Hostel Capacity
2. Utilization of each hostels in numbers (each year)
3. Demographic information of Hostellers
4. Information for Hostellers program-wise
5. Program-wish year-wise information of hostel accommodated students

Enrolled Student Numbers in Reports (HEC Requirement & Other National / International Accreditations):

System generated verified Reports for the enrollment count.

- Program Wise
- Semester wise
- Transferred to and from other programs
- Student Retention in Programs
- Full Time / Visiting Faculty Count along with educational background
- Faculty to Student Ratio
- Faculty Publication / Research work reports
- Research or consultation related Projects report

Note: Any feature/component which could not be included in the initial requirement but revealed after the user information gathering sessions and is required for the completion of the project would be included in the final scope.