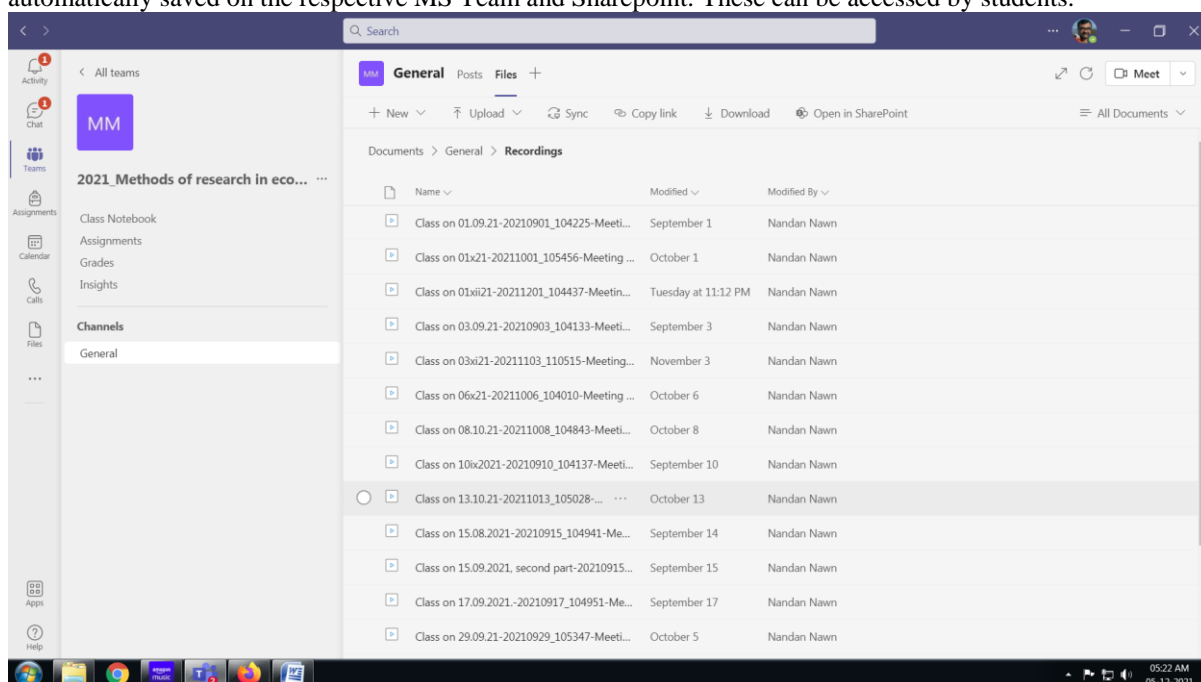


3. Lecture Capturing System (LCS): MS Team has inbuilt lecture capturing software. All recorded videos are automatically saved on the respective MS Team and Sharepoint. These can be accessed by students.



A committee was set up “Committee to recommend appropriate online unified communications platform for smooth conduct of academic activities” on 16.05.2020 to address the pandemic related disruptions. Office order and report of the Committee is enclosed in [Annexure 4.3.5.C](#).

All bills associated with purchase of all IT related matters are included in [Annexure 6.3.2.N](#).

4. Mixing equipments and software for editing, Camtasia. Invoice attached as [Annexure 4.3.5.D](#).

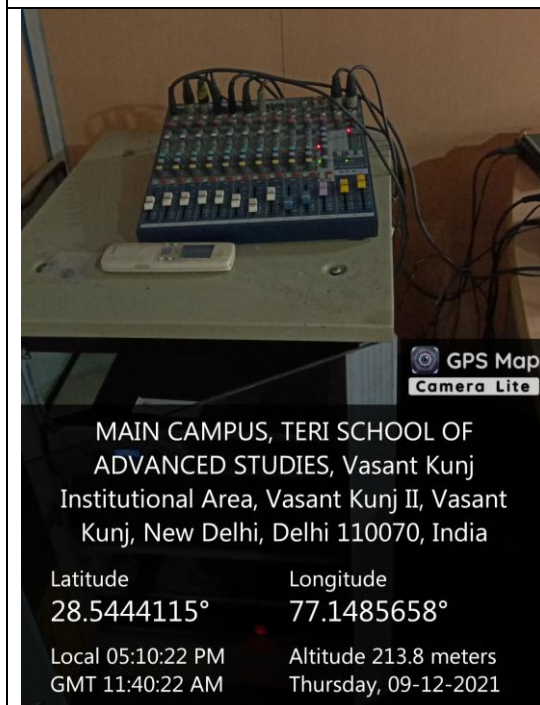
4.3.5.A.



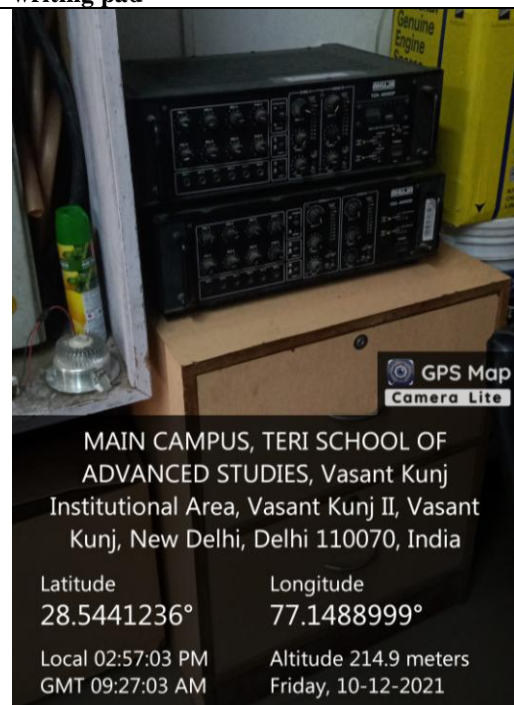
HD camera installed at media center



Interactive Panel with HDMI and digital writing pad



Hardware for sound mixing



Amplifiers

Proposal for Media Lab

11-08-2021

From
TELEON SOLUTIONS PVT LTD
Mobile -: 9810309832
Email-: rmahajan@teleon.in

Teleon Solutions Pvt.Ltd.

Registered Office :- A-1/271, G.F., Janakpuri, Ground floor, New Delhi – 110058 .



Call us: +91-11-45604502



Email: support@teleon.in

CIN:U72200DL2015PTC279171

TERI School of Advanced Studies

10 Institutional Area, Vasant Kunj, New Delhi – 110070

Proposal for Media Lab

Date: 11.08.2021

Dear Sir/Madam,

Please refer to the site visit and requirement for the installation Media Lab at New Delhi, please find our commercial offer for your kind reference:

| S.NO | Item & Description | Make / Model | Unit Price | Qty | Amount Price | GST | Amount Include GST |
|------|---|--------------------------|----------------------|-----|----------------------|-----|----------------------|
| 1 | 10 X zoom camera, Full HD resolutions Ideal for training, conference rooms | Logitech PTZ Pro II | ₹ 67,434.00 | 1 | ₹ 67,434.00 | 18% | ₹ 79,572.12 |
| 2 | Wireless mic, speaker with USB dongle connectivity for seamless performance. Ideal for presenter and room size of 4- 6 seater room | EPSOS SP 30 | ₹ 25,789.00 | 1 | ₹ 25,789.00 | 18% | ₹ 30,431.02 |
| 3 | 65 Inch Interactive Panel with HDMI inputs, wireless presentation, white board and annotation tools | New Line RS 65 Plus | ₹ 1,25,432.00 | 1 | ₹ 1,25,432.00 | 28% | ₹ 1,60,552.96 |
| 4 | Wall Mount Kit for Panel | Custom | ₹ 4,500.00 | 1 | ₹ 4,500.00 | 18% | ₹ 5,310.00 |
| 5 | OPS for Interactive LED ,8GB ,i5 7th Gen , 128 GB SSD | OPS | ₹ 45,786.00 | 1 | ₹ 45,786.00 | 18% | ₹ 54,027.48 |
| 6 | USB Extender for PTZ Pro II and Interactive panel | Cadyce | ₹ 1,860.00 | 2 | ₹ 3,720.00 | 18% | ₹ 4,389.60 |
| 7 | 10" Pen & touch Display | Wacom DTH- 1152/K1-CX | ₹ 34,490.00 | 1 | ₹ 34,490.00 | 18% | ₹ 40,698.20 |
| 8 | USB Extender for EPOS , 5 M | Cadyce | ₹ 6,500.00 | 1 | ₹ 6,500.00 | 18% | ₹ 7,670.00 |
| 9 | Installation | TSPL | ₹ 8,500.00 | 1 | ₹ 8,500.00 | 18% | ₹ 10,030.00 |
| | TOTAL | | ₹ 3,20,291.00 | | ₹ 3,22,151.00 | | ₹ 3,92,681.38 |

Teleon Solutions Pvt.Ltd.

Registered Office :- A-1/271, G.F., Janakpuri, Ground floor, New Delhi – 110058 .



Call us: +91-11-45604502



Email: support@teleon.in

CIN:U72200DL2015PTC279171

Terms and Conditions:

- a. Order to be placed on M/s. Teleon Solutions Pvt. Ltd., A-1/271 Ground floor, Janakpuri, New Delhi-110058\
- b. Payment Terms: 30 days PDC
- c. Validity: This offer is valid till 20th Aug 2021
- d. Lead time: 2-4 weeks from the date of confirmed PO lead time can change in case of any "Force-Majeure" condition
- e. Prices can be changed subject to any variation in dollar exchange rate.
- e. Warranty: OEM Warranty**
- f. Civil/Electrical and carpentry support will be required from the customer at the time of installation.

We hope, the same is in line with your requirement. Looking forward an opportunity to serve you once again.

Thanking you,

For Teleon Solutions Pvt. Ltd.,

Rohit Mahajan
98103 09832

Teleon Solutions Pvt.Ltd.

Registered Office :- A-1/271, G.F., Janakpuri, Ground floor, New Delhi – 110058 .



Call us: +91-11-45604502



Email: support@teleon.in

CIN:U72200DL2015PTC279171

TELEON

4.3.5.B.

Teleon Solutions Pvt Ltd

WZ 10E Ground Floor, Asalatpur

A-2 Block Janakpuri

Delhi 110058 India

GSTIN 07AAAFCT3095A1ZJ

TAX INVOICE

Invoice No

Invoice Date

Terms

Due Date

E-way Bill

E-way Bill#

: DG-2021116
 : 09/09/2021
 : Net 30
 : 09/10/2021
 : PO/20-21/MANUAL/0001
 : 791209484503

Place Of Supply

Customer name

Customer contact no

PO date

: Delhi (07)

: Mr Jitender Singh

: 91-11-71800222

: 31/08/2021

Bill To

TERI School of Advance Studies

Plot no 10, Institutional Area

Vasant kunj

New Delhi 110070

Delhi India

GSTIN 07AAATT4778L1ZU

Ship To

TERI School of Advance Studies

Plot no 10, Institutional Area

Vasant kunj

New Delhi 110070

Delhi India

GSTIN 07AAATT4778L1ZU

| # | Item & Description | HSN/SAC | Qty | Unit Price | Taxable Amount | CGST % | Amt | SGST % | Amt | Total Amount |
|---|---|----------|---------------|-------------|----------------|--------|-----------|--------|-----------|--------------|
| 1 | Logitech PTZ Pro2 Camera 10 X zoom camera, Full HD resolutions Ideal for training, conference rooms. S/N:- 2105LZ53UPH9 | 85258090 | 1.00 | 67,434.00 | 67,434.00 | 9% | 6,069.06 | 9% | 6,069.06 | 79,572.12 |
| 2 | EPOS EXPAND 30T Wireless mic, speaker with USB dongle connectivity for seamless performance. Ideal for presenter and room size of 4-6 seater room. S/N:-0210002897 | 85181000 | 1.00 NOS | 25,789.00 | 25,789.00 | 9% | 2,321.01 | 9% | 2,321.01 | 30,431.02 |
| 3 | Newline: Interactive Display (New Line RS 65 Plus) 65 Inch Interactive Panel with HDMI inputs, wireless presentation, white board and annotation tools. S/N:- B0X72Z1SB30471 | 85285900 | 1.00 units | 1,25,432.00 | 1,25,432.00 | 14% | 17,560.48 | 14% | 17,560.48 | 1,60,552.96 |
| 4 | wall mount kit Custom Wall Mount Kit for Panel | 83025000 | 1.00 NOS | 4,500.00 | 4,500.00 | 9% | 405.00 | 9% | 405.00 | 5,310.00 |
| 5 | OPS OPS for Interactive LED ,8GB ,i5 7th Gen , 128 GB SSD DS5A810B200787 | 84713010 | 1.00 NOS | 45,786.00 | 45,786.00 | 9% | 4,120.74 | 9% | 4,120.74 | 54,027.48 |
| 6 | Cadyce USB Extender 12M USB Extender for PTZ Pro II and Interactive panel | 85444220 | 2.00 NOS | 1,860.00 | 3,720.00 | 9% | 334.80 | 9% | 334.80 | 4,389.60 |
| 7 | Wacom DTH1152/K1-CX Wacom 10" Pen & touch Display S/N:- 0GQ00E1000044 | 84713090 | 1.00 | 34,490.00 | 34,490.00 | 9% | 3,104.10 | 9% | 3,104.10 | 40,698.20 |
| 8 | Cadyce USB Cable 5M USB Extender for EPOS , 5 M | 85444220 | 1.00 NOS | 6,500.00 | 6,500.00 | 9% | 585.00 | 9% | 585.00 | 7,670.00 |
| 9 | Installation | 995416 | 1.00 NOS | 8,500.00 | 8,500.00 | 9% | 765.00 | 9% | 765.00 | 10,030.00 |

4.3.5.7

| # | Item & Description | HSN/SAC | Qty | Unit Price | Taxable Amount | CGST % | Amt | SGST % | Amt | Total Amount |
|------------|--------------------|---------|-----|------------|----------------|--------|-----------|--------|-----------|--------------|
| 43.5.B. | | | | Sub Total | ₹3,22,151.00 | | 35,265.19 | | 35,265.19 | ₹3,92,681.38 |
| Adjustment | | | | | | | | | | (-) 0.38 |
| Total | | | | | | | | | | ₹3,92,681.00 |

Total In Words
Indian Rupee Three Lakh Ninety-Two Thousand Six Hundred Eighty-One Only

We like to thank you for your business and appreciate your trust on us.

Our Banking Details

ICICI Bank Ltd.
Current Account: 000705050022
NEFT: ICIC00000007
Connaught Place,
New Delhi-110001

Canara Bank
Current Account: 2455201002322
NEFT: CNRB0002455
Vikas Puri Branch
New Delhi-110018



Authorized Signature

| | |
|---------------------------------|-------------------------------|
| TERI SCHOOL OF ADVANCED STUDIES | |
| Material handed over to: | |
| Name: <u>Pooja Chaudhary</u> | |
| Date: <u>9/9/21</u> | Signature: <u>[Signature]</u> |

Recd. & checked by Yogesh
For MEDIA Room
9/9/21

| | |
|---------------------------------------|-------------------------|
| TERI School of Advanced Studies | |
| Material Receipt at the Security Gate | |
| No. <u>8139</u> | Date: <u>09/09/2021</u> |
| Name: <u>[Signature]</u> | |
| Sign. <u>[Signature]</u> | |

2:00pm



10, Institutional Area, Vasant Kunj, New Delhi - 110 070
Phone: 71800222

NOTIFICATION
No.28 of 2019-20

Ref.: NOT/R35

May 16, 2020

Sub: Committee to recommend appropriate online unified communications platform for smooth conduct of academic activities

1. On the advice of the Vice Chancellor the following are requested to constitute a Committee to examine and recommend an appropriate online unified communications platform for smooth conduct of academic activities in the University:-

| | | |
|-----|--|------------------|
| (a) | Prof Atul Kumar, Dean (Academic) | Chairperson |
| (b) | Prof Shaleen Singhal, Dean(Research & Relationships) | Member |
| (c) | Dr Seema Sangita, Controller of Examination | Member |
| (d) | Dr Nandan Nawn, Coordinator, IQAC | Member |
| (e) | Mr Dhanraj Singh, Dy Finance & Project Mgt Offr | Member |
| (f) | Mr Sandeep Arora, Associate Director (Administration) & i/C Procurement Section | Member |
| (g) | Mr V Ganesh, Asst Registrar (Acad Admin) | Member |
| (h) | Ms Pooja Choudhary, Dy System Analyst (IT) | Member |
| (i) | Mr Jagpreet Singh, Network and System Operator | Member Secretary |

2. The Terms of Reference of the Committee shall be as follows:-

(a) Review the appropriateness and effectiveness of the product/platform under existing licensing arrangements for Microsoft products and data transmission/applications agreements for delivering online teaching-learning and examination processes.

(b) Examine other popular platforms and recommend a suitable Product/ Platform for the University.

(c) Examine other relevant IT related issues for long-term preparedness of the University for addressing challenges arising due to COVID-19 environment and offer suggestions if any.

3. The Committee is requested to submit its recommendations/report to the Vice Chancellor by PM 31st May 2020.

Pradeep Kr Padhy
Registrar

Distribution: -

-The Vice Chancellor

-Chairperson & all members

-Notification file

4.3.5.C.

Draft report of IT Committee

Atul Kumar <atul.kumar@terisas.ac.in>

Mon 21-09-2020 12:32

To: Jagpreet Singh <jagpreet@terisas.ac.in>; Nandan Nawn <nandan.nawn@terisas.ac.in>; Seema Sangita <seema.sangita@terisas.ac.in>; Sandeep Arora <sandeepa@terisas.ac.in>; Dhanraj Singh <dhanraj.singh@terisas.ac.in>; Shaleen Singhal <shaleen.singhal@terisas.ac.in>; V Ganesh <v.ganesh@terisas.ac.in>; Pooja Choudhary <pooja.choudhary@terisas.ac.in>

 4 attachments (2 MB)

Report_IT_Committe_Draft.docx; Annexure 1.pdf; Annexure 2.pdf; Annexure 3.docx;

Dear All

We have been busy with exams, admission etc. and some how loose track of our It Committee. In last meeting we got agreement on all matters but some how not prepared final recommendation. I am sending across draft final report prepared by Jagpreet. If you have any suggestion make those in track change mode by tomorrow afternoon.

[@Jagpreet Singh](#): also provide link of report and annexures so that member can make changes there only in a single document. Take signature from all member after tomorrow time period for comments

With kind regards

Atul

XX

Atul Kumar, Ph.D.

Professor & Dean (Academic)

TERI School of Advanced Studies (Deemed to be University)

10, Institutional Area

Vasant Kunj, New Delhi - 1100 70 (India)

Phone: +91-11-71800222, Fax: +91-11-26122874

E-mail: atul.kumar@terisas.ac.in

Web: www.terisas.ac.in

XX

From: Jagpreet Singh <jagpreet@terisas.ac.in>

Sent: 03 June 2020 16:49

To: Nandan Nawn <nandan.nawn@terisas.ac.in>; Seema Sangita <seema.sangita@terisas.ac.in>; Sandeep Arora <sandeepa@terisas.ac.in>; Dhanraj Singh <dhanraj.singh@terisas.ac.in>; Shaleen Singhal <shaleen.singhal@terisas.ac.in>; V Ganesh <v.ganesh@terisas.ac.in>; Pooja Choudhary <pooja.choudhary@terisas.ac.in>

Cc: Atul Kumar <atul.kumar@terisas.ac.in>

Subject: MInutes of IT Committee meeting held on 26th May 2020

Dear All,

4.3.5.11

4.3.5.C.

Please refer attached minutes of IT Committee meeting held on 26th May 2020.

Note : please add if we missed out any point ,Online Document is attached

 [Minutes_2nd_IT_Committe.docx](#)

Thanks,
Jagreet





Date: 16 September 2020

Report of the IT Committee

1. Consequent to the constitution of the **IT Committee** by the Vice Chancellor vide notification No **NOT/R35** dated **16 May 2020**, the Committee as under, reviewed the relevant documents, reports, rules and met on **19th & 28th May 2020** through *Microsoft Teams* platform for deliberation and finalizing the report: -

- (a) Prof. Atul Kumar (Chairperson)
- (b) Prof. Shaleen Singhal
- (c) Dr Seema Sangita
- (d) Dr Nandan Nawn
- (e) Mr. Dhanraj Singh
- (f) Mr. Sandeep Arora
- (g) Mr. V Ganesh
- (h) Ms. Pooja Choudhary
- (i) Mr. Jagpreet Singh (Secretary)

OBJECTIVE

2. To develop and compile online platform for academic activities of the TERI School of Advanced Studies.

REFERENCES

3. The Committee examined various online teaching learning platforms and requisite hardware accessories to enable effective deliver, TERI SAS rules and relevant documents with respect to IT infrastructure at TERI SAS:-
 - (a) Annexure 1: Copy of presentation made and minutes of first meeting
 - (b) Annexure 2: Copy of presentation made and minutes of second meeting

(c) Annexure 3: Comparison of online teaching platforms

DISCUSSION

4. Detailed discussions were held in the meeting about the modalities followed for the procurement of MS platform at TERI SAS which were explained to the members by Mr Jagpreet Singh.
5. Application which are currently used by the TERI SAS are as follow:
 - Outlook (50 gb mailbox)
 - One drive (1TB space on cloud mapped with local system)
 - SharePoint
 - MS Team
 - MS Planner
 - MS Yammer
 - Skype for business
 - Online Microsoft office
 - a. The Office 365 license for Educational Institutes is free. MS Office applications i.e. MS Word, Excel, and PowerPoint are essential required applications for education and research work.
 - b. All students receive web version of MS Office applications free in addition to all other Office 365 apps. Students get online version of word
 - c. Single Sign-on: all applications of Office 365 are integrated and only one login required.
 - d. The desktop version of MS Office is not free even for Educational institutes like TERI SAS. One user license of Office 365 valid on 5 devices
6. For online classes, it was discussed that the faculty may record their lectures and share it with students in order to avoid the connectivity issues faced by the students. This can also be used as a reference for students at a later stage.
7. Based on the needs and common practices followed at TERI SAS, the Committee has come up with the following observations:

(a) Migration to any new platform is not recommended at this stage. Therefore, TERI SAS should continue with Microsoft O365 (Educational Version) and use its various Apps for smooth running of the academic activities.

(b) If class in online mode continues, then students need to ensure that they have the following minimum requirements to attend online classes

- Good quality camera – (Logitech Webcam model no C310/equivalent or higher specification)
- Headphone – (Logitech Headphone with mike model no H110/equivalent or higher specification)
- Laptop with Basic Configuration (minimum 2 GB RAM, Windows 7 or higher operating system, minimum 500 GB Hard Disk, and Minimum i3 Processor)
- Data card or Internet Service from any Service provider Per hour usage of one hour video group lecture is 700MB and Audio is Around 300 MB per Hour ,we are suggesting 2 GB Per day with network of minimum bandwidth requirement of 12 mbps speed. Various plans by several internet service providers are available to cater this requirement typical this Rs 600 per month internet data plan is sufficient

(c) For remote access to computer lab facility at TERI SAS for academic year 2020-21, VPN software and firewall need to be upgraded which will cost approximately Rs. 3 lakh.

(d) Lecture recording options is available only for faculties and can be downloaded by participants within 21 days from recording.

(e) Online Examination system needs to be explored through which university can conduct online exams in a secured environment and thereby minimise the chances of cheatings etc

RECOMMENDATIONS

8. The Committee after examining various documents and due deliberations, resolved to recommend the following:-

- (a) Cost per user is not too much, so we can consider Microsoft platform for various academic activities and email services.

- (b) The following hardware need to be procured for faculty
- Good quality mic
 - Web streaming camera for recording lecture
 - Provision of STYLUS to faculty teaching analytical courses
 - Broadband connectivity or highspeed internet data card
- (c) Explore option for classrooms in the University be converted into virtual class rooms with Movable Audio/Video equipment's
- (d) All staff should be provided with a camera, headphone and Mic as a basic requirement
- (e) The committee members suggested that IT team should continuously update faculty member about various features available in the MS platform. In the interim the IT team will share the videos of various features which are not presently used by the faculty members.

Signed by members

Prof. Atul Kumar

Prof. Shaleen Singhal

Dr Seema Sangita

Dr Nandan Nawn

Mr. Dhanraj Singh

Mr. Sandeep Arora

Mr. V Ganesh

Ms. Pooja Choudhary

Mr. Jagpreet Singh

Enclosures:

Annexure 1

Annexure 2

Annexure 3

-----XXXX-----

Annexure-1A

- Office 365 - Education Version
- 70 Licenses -Only used faculty Members & Some Admin senior staff
- Student using online licence – Free of cost

When & why Office 365 was procured

- Initially faculties were using Lotus Notes (part of TERI)
 - Domain shifted from teri.res.in to terisas.ac.in??
- User Google Apps Educational Version till 2017
- Shifted to Educational Version Office 365 in 2017
 - Purchased only 70 licenses (Cost 2.6k Approx)
 - Gmail Users (teriuniversity.ac.in to terisas.ac.in)
 - No License cost for Students
- Recently we formulated Email policy, Desktop policy & Firewall policy

Reason why Office 365?

- Need of upgrading MS Office i.e. Word, Excel, and Powerpoint
- SharePoint for document repositories & Intranet
- Skype for business for smooth online meetings
 - MS Team for webinars
- One drive for remote access of files and data having easy integration with online MS Office
- Offline access of emails without internet
- Microsoft Forms for online forms like feedback, survey, registration etc.
- MS Planner for task management
- Yammer for enterprise social networking
- Power BI for data analytics
- MS Teams for conducting webinars
- Delve and many more ...
- At the time of procurement only Google Hangout was there and there was no need for online teaching & examination platform

O365 Messaging Service

- Microsoft Online Exchange O365 email messaging system
 - Office 365 Online for Students
 - Office 365 for Faculty with 5 device licenses
 - 50GB mailbox size
 - 1TB OneDrive file storage with Sync Client on user devices
 - Microsoft Team for Audio/Video and Instant Messaging(using for Online teaching)
 - SharePoint repository for Document / Photo / Video Library & Intranet Website



Online Examination & Assignments

- Open book exams are being conducted on Microsoft teams
- Better platform for online exams is under evaluation with **Secured browser feature**
 - Full screen mode to restrict student to switch to other windows
 - Shows warning to the student if he/she tries to switch to other windows
 - Logs out if the student tries to switch to other windows
 - Takes periodic screenshot of the system screen
 - Provision to restrict keyboard shortcut usage (like ctrl+c, ctrl+v, alt+tab etc.) once the assessment starts
 - Detect dual screen attached to the system
 - Detect IP address shifting during the test/assessment
 - Timestamp recording of the questions answered by the students
 - Restrict student to start the Test/Assessment within a given time period only.
Example: for a test 9-12 PM, entry is restricted between 9:00-9:30 AM only

Good platforms for online teaching

- **Microsoft Teams**

- Part of Office 365 application and integrated
- Outlook calendar to schedule online meetings
- Address book e.g. mailing lists
- OneDrive for files transfer
- Stream for video uploads

- **Zoom**

- We can use educational version of Zoom
- Excellent feature of sharing 32 video at a time
- All other features are almost at par
- Security issues: MHA advised not to use for education purpose
- If committee agrees, we can it trial purpose till September 2020

Good platforms for online teaching

- **Google Meet**

- Currently tied up the Vodafone
- If committee agree, we will explore features
- Licenses are free till September
- Limitations: no integration with Outlook mailbox and unified collaboration

- **Cisco webex**

- Generally used for Webinars
- If committee agree, we will explore with Cisco

Which Video Platform Makes Sense?

A simple chart for finding a solution that meets your groups needs*

| Product | # of Participants | Time Limits | Chat Feature | Recording | Cost | Breakout Groups | Conference Phone |
|---|-------------------|---------------------------------|-----------------|-----------|-------------------|----------------------------|------------------|
| Google Meet | 150 | None | Yes | No | Free Until July | No | Yes |
| Zoom | 100 | 40 Minutes | Yes | Yes | Free | No | Yes |
| Zoom Paid | 100 | 24 Hours | No | Yes | \$14.99 per Month | \$49.99 per Room per Month | Yes |
| Facetime (Apple Devices only) | 32 | None | No | No | Free | No | No |
| Facebook Live | No Limit | 4-8 Hours (depending on device) | In the Comments | No | Free | No | No |
| Facebook Video Chat Messenger | 50 | No | No | No | Free | No | No |
| Microsoft Teams | 10,000 | No | Yes | Yes | \$8-\$35/ Month | Yes | Yes |
| Google Hangouts | 10 | None | Yes | No | Free | No | No |
| FreeConferenceCall.com (Video and/or Phone) | 1,000 | 6 Hours | Yes | Yes | Free | No | Yes |
| Skype | 50 | 24 Hours | Yes | Yes | Free | No | Yes |
| Slack | 15 | No | Yes | No | Free | No | No |

Recommendations

- If we continue online teaching, we need to ensure good internet connectivity
 - Preferably wired internet at homes
 - Good quality data cards for faculties for mobility
 - Note : VPN Access given to students for LAB Access

University Usings

- JP Univesity : Zoom
- Benette : Microsoft Teams
- shivnadar : Microsoft Teams
- amity : Microsoft Teams /Zoom
- Ashoka : Zoom
- The DPS : Teams
- Hindustan uni : Teams
- LPU : TEAMS/google Meet
- **BHARATI VIDYAPEETH** : Teams
- Manavrachna : Teams

Annexure-1B**TERI School of Advanced Studies, New Delhi**

May 19, 2020

A meeting was organised on 19th May 2020 from 1400-1500 on Microsoft Teams (Online) to recommend appropriate online unified communications platform for smooth conduct of academic activities. The attendees were following -

| S.No. | Attendees |
|-------|----------------------|
| 1. | Prof Atul Kumar |
| 2. | Prof Shaleen Singhal |
| 3. | Dr Seema Sangita |
| 4. | Dr Nandan Nawn |
| 5. | Mr. Dhanraj Singh |
| 6. | Mr. Sandeep Arora |
| 7. | Mr. Ganesh |
| 8. | Ms. Pooja Choudhary |
| 9. | Mr. Jagpreet |

| S.No | Agenda |
|------|---|
| 1. | Discuss and recommend online platform for academic activities |

Discussion and action performed

- 1. Review the appropriateness and effectiveness of the product/platform under existing licensing arrangements for Microsoft products and data transmission/applications agreements for delivering online teaching-learning and examination process.**

Discussion and action points:

- Detailed discussion was held in the meeting about why university procure Microsoft platform. Mr. Jagpreet shared all the feature available in MS platform.
- Application which are currently used by the University are as follow:
 - Outlook
 - One drive
 - SharePoint
 - MS Team
 - Skype for business
 - Online Microsoft office

4.3.5.C.

- c. Comparison matrix need to prepare on all relevant online classes platforms. (Action: Mr. Jagpreet will prepare and send the matrix - **Done**)
- d. For online classes, online system needs to explore which will take less bandwidth and it can be a good solution for the students who are not in urban areas. (Sol: Faculty can record their lecture and send it to the students, which can be used later by students whenever they will have network connectivity)

2. Examine other popular platforms and recommend a suitable Product/Platform for the university.

It was discussed, cost per user is not too much, so we can consider Microsoft platform for various academic activities.

(Action: Committee will review all available platforms given in the comparison matrix then will take decision)

3. Examine other relevant IT related issues for long-term preparedness of the University for addressing challenges arising due to COVID-19 environment and offer suggestion if any.

Same is depending on the online platform which university will be procured.

Online Examination system needs to explore through which university will conduct online secure exams.

(Action: Will discuss the same in next IT Committee meeting)

Note: Available Microsoft office 365 licenses will be expired by 25th June.

Annexure-2A

- Why university procure Microsoft platform.(Word Document already send in details
- Cost per user is not too much, so we can consider Microsoft platform for various academic activities.(only for faculty and Senior Admin staff)
- Migration for any new platform is not Recommended ,We can continue with existing office 365 email Plan (Educational Verrson)
- Email Services : Renewal is due on 26th June
- Various features of Office 365 (Discussed in last meeting)
- Office online (For students)
- **Unified Communications** (Comparison matrix need to prepare on all relevant online classes platforms)
- Online Examination system needs to explore through which university will conduct online secure exams

- Review the appropriateness and effectiveness of the product/platform under existing licensing arrangements for Microsoft products and data transmission/applications agreements for delivering

Effectiveness of the Microsoft platform During Covid19

- All Online classes are conducted through MS Teams
- Able to fetch the logs of Attendance of online classes (Excel Sheet Attached for reference)
- Major Project Presentation successfully conducted through MS Teams
- Creating Team Policies for Faculties – Recording
- Various Webinars Conducted through MS Teams – (Approx. 10-15)
- Online Interviews for admission were planned and successfully conducted in groups through MS Teams (Online interview in private Rooms)
- Options of STREAM VIDEO
- All students get web version of MS Office applications free in addition to all other Office 365 apps(Included with One drive)
- ASSIGNMENTS

Examine other popular platforms and recommend a suitable Product/Platform for the University

| Feature list | Microsoft Teams | Zoom | Google Hangouts |
|---|---|------------------------------------|---|
| Platforms supported | Web based, iPhone App, Android App, Windows App | Web based, iPhone App, Android App | Web based, iPhone App, Android App, Windows App |
| HD Audio and Video Conferencing | ✓ | ✓ | ✓ |
| Record any call | ✓ | ✓ | |
| Screen share | ✓ | ✓ | ✓ |
| Instant messaging | ✓ | ✓ | ✓ |
| Take control of someones screen within a call | ✓ | ✓ | ✓ |
| Blur background on video calls | ✓ | * | * |
| Comprehensive security controls | ✓ | * | * |
| Fully integrates with Office 365 | ✓ | * | * |
| time Limit | Unlimited | 24Hrs | Unlimited |
| Costing | free upto 10,000 hosts | 19.99\$ Per Month Upto 100 Hosts | \$25 per user per month |
| Breakup Groups | Free | Paid | Not Available |
| Meeting Partpants | 300 | 100 | 100 |
| Attendandce | Record Attendance | no | no |
| Video Frame | 9 | 32 | 8 |
| White Board | ✓ | ✓ | * |
| Mobile App | ✓ | ✓ | ✓ |

Why MS Team

- **Single Sign-on:** all applications of Office 365 are integrated and only one login required.
- Single Platform all features(Integration with Mail /notebooks all features of office 365)
- Attendance Record of Students (30 days data available)
- While **Microsoft Teams** is free for online teaching and meetings but in case of a better platform in future, TSAS don't have any dependency on Office 365 Email and can adopt other platform

Bandwidth Utilization

- ▶ Minimum requirement of bandwidth
 - ▶ MS Teams is 1.2Mbps.
 - ▶ Zoom 1.5Mbps
- ▶ Per hour usage of one hour video group lecture is 700MB
- ▶ Instead of using Team in chrome, Microsoft recommended to use Team through APP
- ▶ Speed reduce – Suggest Plan

Email

Why is it Important for TERI SAS?

► **Important points shared and discussed in last meeting**

- Examine other relevant IT related issues for long-term preparedness of the University for addressing challenges arising due to COVID-19 environment and offer suggestions if any. nline teaching-learning and examination processes

Unified Communication

- This is the most important part of Office365 help us to continue to work using online platform during Covid-19 situation.
- Challenging time for both Faculty & Students
- Online Assignments through Teams (Only for open Books exam)

COVID - 19

During this lockdown period, we faced various challenges during running of online classes. To get the feedback from students, we had sent them a survey to understand the areas to work on. Here are some of the issues raised:

- Connectivity issue
- Audio/Video issue
- Challenges for using Labs
- Stain in eyes during long duration classes
- Difficult to understand Maths, Programming and Numeric subjects
- Non availability of online material
- Multiple lectures at same time

Recommendation based on the Student's feedback

- Online Calendar, so that classes will no clashes
- All lectures should be recorded, so that it will be available later
- For Mathematics and numeric classes styles need to procure for all faculty member who are taking these classes
- Online material can be shared through MS Notebook(Channel) always available to students for reference
- VPN for some students for lab activities – Infrastructure need to upgrade

Recommendations to help students with Resources

- to procure data cards/Or help to buy to students for better connectivity, wherever possible
- Good Mic system to be used
- Speakers for listening to online lectures
- provide infrastructure to students like Data card and good quality headphone

Recommendations for Faculty members

The following resources to Faculty members

- Good Quality Mic (Echo Free)
- Speakers
- Webcam good quality(to record live lectures)
- White Board / Styles
- Good bandwidth data Cards /Boardband required as per the logs we found some of the lectures were conducted through poor connectivity

Note: We have a tool through which we can check exact bandwidth.

Suggested Hardware for Faculty Members

LIVE STREAMER CAM 313

The Live Streamer CAM 313 (PW313) is a plug and play USB webcam that records in 1080p30 for podcasting, streaming, and gaming. PW313 comes with 2 built-in microphones (mono).

Links

► Webcam

<https://www.avermedia.com/us/product-detail/PW313>

Rs ,11,000/-

► MIC

[https://www.avermedia.com/us/product-detail/AM310\(Compatible with Smartphones\)](https://www.avermedia.com/us/product-detail/AM310(Compatible%20with%20Smartphones))

Rs – 15600

Buundled : 24500



10 Institutional Area
VasantKunj, New Delhi - 110 070

Date: 26 May 2020

Annexure -2B

Minutes of IT Committee

TERI School of Advanced Studies, New Delhi

May 26, 2020

A meeting was organised on 26th May 2020 from 1500-1600 on Microsoft Teams (Online) to recommend appropriate online unified communications platform for smooth conduct of academic activities & preparation for next Semester. The attendees were following –

| S.No. | Attendees |
|-------|----------------------|
| 1. | Prof Atul Kumar |
| 2. | Prof Shaleen Singhal |
| 3. | Dr Seema Sangita |
| 4. | Dr Nandan Nawn |
| 5. | Mr. Dhanraj Singh |
| 6. | Mr. Sandeep Arora |
| 7. | Mr. Ganesh |
| 8. | Ms. Pooja Choudhary |
| 9. | Mr. Jagpreet |

| S.No | Agenda |
|------|---|
| 1. | <p>Review the appropriateness and effectiveness of the product/platform under existing licensing arrangements for Microsoft products and data transmission/applications agreements for delivering</p> <p>Examine other relevant IT related issues for long-term preparedness of the University for addressing challenges arising due to COVID-19 environment and offer suggestions if any. line teaching-learning and examination processes</p> |

1 If lockdown increase due to Covid-19 continues, then students need to ensure that they have the following minimum requirements to attend online classes

- Camera – Logitech
- Headphone – Logitech
- Laptop with Basic Configuration (2Gb RAM/Windows 7 & 500gb Hardisk and Minimum i3 Processor)
- Data card or Internet Service from any Service provider (Rs600 for 84 Days) Per hour usage of one hour video group lecture is 700MB and Audio is Around 300Mb per Hour ,we are suggesting 2gb Per day for this Rs 600 plan is Sufficient

2. Solution for Lab oriented programmes for academic session 2020-21 in case Covid 19 Lockdown continues

- Firewall needs to be upgraded and the approximate cost of which is Rs. 3 lakh (For Vpn)

3. Stream Video Option should available only for faculty members and it should be read only for students

4. For online classes, it was discussed that the faculty should record their lectures and share it with students in order to avoid the connectivity issues faced by the students. This can also be used as a reference for students at a later stage.
5. In order to facilitate the students, the IT team will conduct a survey to find out the requirement of the best data plan with multiple hotspots
6. Online Examination system needs to be explored through which university can conduct online exams in a secured environment and thereby minimise the chances of cheatings etc
7. On the day of orientation for new students, a vendor needs to be called to help the students with various data plans and mobile/desktop for students.
8. The committee members suggested that IT team should plan a meeting with the faculty and update them about the various features available in the MS platform. In the interim the IT team will share the videos of various features which are not presently used by the faculty members.
9. The committee felt that the university can think to provide data cards to students if Covid-19 lockdown continues. The approximate cost of this would be Rs. 2500/- per student in a year.
10. TERI SAS should procure the licenses of O365 and use its various Apps for smooth running of the academic activities
11. Following hardware need to be procured for faculty
 - i. Good Quality MIC
 - ii. Web Streaming Camera for recording Lecture
 - iii. STYLUS
 - iv. Laptop with Good configuration (Windows10/i5/1tb/8gb)
 - v. Data Card / Broadband Connectivity
12. Five classrooms in the University be converted into virtual class rooms with movable Audio/Video equipments
13. All staff should be provided with a camera, headphone and mic as a basic requirement

Action to be taken

- 1) Price of Web camera & MIC for Faculty
- 2) Good quality Laptop – Price
- 3) Stylus –
- 4) Cost of 5 Classrooms to be moveable media lab
- 5) Online exam evaluation
- 6) Send mail to students regarding Minimum requirement of IT infra for online teaching

Annexure 3: Comparison for Various Online Teaching-Learning Platform

Table 1: Features Comparison matrix of for online teaching and meetings platform

| Feature list | Microsoft Teams | Zoom | Google Hangouts |
|---|---|------------------------------------|---|
| Platforms supported | Web based, iPhone App, Android App, Windows App | Web based, iPhone App, Android App | Web based, iPhone App, Android App, Windows App |
| HD Audio and Video Conferencing | ✓ | ✓ | ✓ |
| Record any call | ✓ | ✓ | |
| Screen share | ✓ | ✓ | ✓ |
| Instant messaging | ✓ | ✓ | ✓ |
| Take control of someones screen within a call | ✓ | ✓ | ✓ |
| Blur background on video calls | ✓ | * | * |
| Comprehensive security controls | ✓ | * | * |
| Fully integrates with Office 365 | ✓ | * | * |
| time Limit | Unlimited | 24Hrs | Unlimited |
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| Meeting Partpants | 300 | 100 | 100 |
| Attendandce | Record Attendance | no | no |
| Video Frame | 9 | 32 | 8 |
| Whte Board | ✓ | ✓ | * |
| Mobile App | ✓ | ✓ | ✓ |

Benefits of Microsoft Platform

It may be noted that academic institutes that are Microsoft customers and already hold licensed Office at the institutional level are eligible to offer Office 365 to their students at no extra cost.

Also, students can take benefit of free Office 365 by logging in to the Office 365 portal. The services which are included in it are Office Online (Word, PowerPoint, Excel, and OneNote), 1TB of OneDrive storage, Microsoft teams, Yammer, and SharePoint sites.

4.3.5.C.

Since Office 365 is based in the cloud, it can be accessed for anywhere from mobiles, tablets and laptops on the go and It can help to maintain record of all communications, Documents, meetings and other items without any additional cost.

It allows better collaboration as it allows team members to edit one document. Microsoft Office 365 offers increased storage, accessibility and file sharing from wherever you may be as well as 1 TB Mailbox.

Security: It is recommended to choose Office 365 as its applications are accessed through 128-bit SSL/TSL encryption. Apart from that, there are updated Antivirus signatures and security measures are applied in accordance with the Microsoft Trustworthy Computing initiative

Reliability: Microsoft Online Services are one of the most reliable service as it has a service level agreement (SLA) and has a 99.9 percent scheduled uptime. Apart from that Microsoft has multiple data centres which are located worldwide. So, if there is an outage at one data centre, another can act as a backup.

Compliance: Microsoft Office 365 services are compliant with ISO 27001 standards, completed SAS70 Type I and II audits, and have achieved the EU Safe Harbor seal.

Up-to-date versions: By using Office 365, users get all the features and functionality of the latest versions of Microsoft's server products.

Maintenance: Since Office 365 is available on the cloud it has the flexibility of integrating it with your company's On-Premises solutions if that's needed. Using the cloud helps in saving on the maintenance costs associated with local servers.

Commercials

TERI SAS pays annual subscription cost of approx. Rs 2.7 lakhs primarily to get desktop version of MS Office applications for faculties.

INVOICE

4.3.5.D.



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TERI School of Advanced Studies
10, Institutional Area, Vasant Kunj
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<http://www.techsmith.com>
custservice@techsmith.com

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questionacharge.com

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| Description | Quantity | Amount |
|---|--------------|-------------------|
| Camtasia® 2021 Education Upgrade | 1 | ? 10,433.59 |
| Camtasia® Education Upgrade Maintenance ? 0.00 Billed yearly. Free Trial Until 5/16/22 | 1 | ? 0.00 |
| | Subtotal | ? 10,433.59 |
| | Discount | - ? 2,981.25 |
| | GST (18%) | ? 1,341.42 |
| | Total | ? 8,793.77 |

Invoice ID: IV3AQ7PJXNJRHGVA7IRUYCSIPQHI