

Assessment of Online Learning Procedure through the Eyes of Medical Students in COVID-19 Scenario

TANWI GHOSAL (SEN)¹, ANIRBAN SADHU², PARIJAT MUKHERJEE³, PARAMITA MUKHOPADHYAY⁴

ABSTRACT

Introduction: Coronavirus Disease 2019 (COVID-19) pandemic has necessitated closure of physical classroom for maintaining social distancing norms, prompting learning environment to shift from offline to online. Medical education has also undergone similar changes, and online education and assessment methods had to be implemented. Student's perception regarding the same was assessed through this study.

Aim: To assess the perception of first year MBBS students about the online education and assessment during the lockdown period of two months.

Materials and Methods: A descriptive cross-sectional study was carried out on the first year MBBS students of North Bengal Medical College (NBMCH) during the COVID-19 Lockdown period (29th August to 9th September 2020). All first year MBBS students of NBMCH were added in WhatsApp groups created for academic purposes by Department of Anatomy, NBMCH during the lockdown period. Respective teachers in the academic groups carried out sharing of Digital Education Material (DEM), holding Online Interaction (OI) and correspondence with students, and taking Online Assessments (OA) through sharing questions framed in Google Forms. After two months, the perception of the

students was assessed through a voluntary participation based online survey designed in google forms, the results of which were tabulated later and analysed.

Results: A total 95 students (54 Male, 41 Female) out of 200 had participated in the survey. Most students were reliant on smartphones (n=90, 94.7%) and mobile internet (n=78, 82%). Most agreed on DEM being relevant (83.2%) and informative (80.7%) but showed diverging opinion on ease of understanding, revision and overall fulfillment of learning objective. On OI, majority students responded positively on promptness, relevancy, informative and helpfulness but only 46.8% considered DEM and OI fulfilled the overall learning objective. Regarding OA students had an overall positive opinion. Comparing the online mode with offline, students mostly preferred the latter, though agreeing that online method of education was effective and it was easier to score in OAs.

Conclusion: While most students accepted online education, interaction and assessment positively, at the end most of them still preferred offline mode of education and assessment. This could reflect lack of student-student interaction and indicated need of further studies to explore the matter, to help us approach online education better.

Keywords: Coronavirus disease 2019, Digital education material, Online interaction

INTRODUCTION

From March 2020, an unprecedented lockdown was implemented in India, in tune with the rest of the world, as the ravaging COVID-19 pandemic brought the entire dynamics of the world to a grinding halt, raking up the case and death tolls, plummeting economies and confining many lives within four walls. Naturally, there was shift in the role of medical teachers towards patient care and the community, instead of teaching the medical students [1].

However, as the pandemic was set for a protracted course, the medical education could not be put on hold indefinitely and alternate avenues had to be sought for. Prior to COVID-19, most of the medical education used to be done in a physical classroom basis. However, the most effective preventive strategy for COVID-19, the social distancing, disallows students from gathering in lecture halls or small rooms for group teaching [2,3].

As the pandemic and subsequent lockdown stopped the physical classroom teaching, the only process for continuation of any form of education left was online. Thus, online education was adopted in a priority basis in educational institutes across India, although major hurdles such as lack of training, infrastructure and lack of awareness of the various online teaching modalities were identified [4]. Medical education in India was not an exception to this sudden drive for online education, and in light of present scenario it is imperative to explore this matter further.

The topic of online education in medical fields has already been a topic of interest for many authors due to its potential and the wide

and ever increasing range of technologies available, and the need to frame guidelines [5]. In the Indian context too, various studies in pre COVID times have suggested addition of more technology and online resources in medical teaching in India [6]. Later studies on this matter in pre COVID times also indicated that it was generally accepted by teachers and students when it was considered to be implemented alongside traditional teaching [7].

With the COVID-19 pandemic spreading across the world and shutting down of classrooms, it was recommended to use online teaching in medical and dental fields, and its various advantages were noted, with emphasis on student centered learning [8]. Pei L and Wu H in their meta-analysis in 2019 have also supported the idea of online education in medical field, along with emphasis on further study to evaluate digital learning materials and student's perspectives amid many other matters [9].

A study by Saiad S et al., in 2020 from India also suggested further exploration of the online education, and expressed the idea that online education can become main stream in the future, and attempted to frame out good medical teaching practices, prioritising training, building infrastructures and guidelines [10]. Other studies also indicated further exploring the matter of online education [11,12].

As the online teaching has gained importance in becoming a necessity in these times, and for the fact that the field is relatively new with always changing technologies, newer studies are necessary, especially to explore the context in Indian framework and to explore the matter from the perspective of the students. The

aim of the present study was to assess the perception of first year MBBS students about the online education and assessment during the lockdown period of two months.

MATERIALS AND METHODS

A descriptive cross-sectional study was designed, in which an online survey was used to assess the student's perception regarding various aspects of online education and assessment during the lockdown due to COVID-19 pandemic. Data collection through the online survey was done from 29th August to 9th September 2020, after two months period of online education.

Inclusion criteria: First year MBBS students of North Bengal Medical College who undertook two months online education, and prior to pandemic were taught offline.

Exclusion criteria: Those who partially completed the survey, didn't give consent for the study and didn't participate in the voluntary survey were excluded from the study.

Following COVID-19 Pandemic and subsequent lockdowns, provisions for regular online medical education were arranged for first year MBBS students through the Department of Anatomy in North Bengal Medical College.

In the initial phase, various modalities of E-Learning were explored, such as self-directed learning (Digital study materials shared with the students who study it themselves), online live classes (live classes were arranged online which were attended by the students at a specific time) and Hybrid E-Learning (DEMs shared with students for their study, along with OI with teachers to clarify any doubts). Hybrid E-Learning Method was accepted for the Department of Anatomy. According to the accepted method, the procedure of DEM sharing and OI took place in a Digital Information Sharing Platform (DISP).

Operational definition of the same for the context of this particular study is described herein.

Digital Education Material (DEM): Any digital file or information that can be utilised for the purpose of education is a DEM. The definition of DEM included but was not limited to narrated PowerPoint Presentations, Youtube Videos made by the faculties themselves, Images from textbooks, handwritten notes and typed explanations, voice and video clips, links to external websites and web based classes etc.

Digital Information Sharing Platform (DISP): Any internet based platform with which digital study material can be shared with the students, can be utilised as the DISP. Potential DISP for academic purposes could be instant messaging services such as whatsapp, telegram etc; email services such as Gmail, rediffmail; and social media such as facebook. Among these whatsapp was chosen for its widespread usage, ease of use and privacy; and versatility of type of materials that could be shared in it.

For the purpose of online education, first an academic group was created in WhatsApp where all departmental faculties were present as group admins, and the students of first year MBBS were present as members. They had access to the group through their smartphone or WhatsApp Web. This group was the framework for the sharing of various DEMs according to a time schedule framed by the department and shared with the students.

The students were in constant correspondence with the teachers through the group for any queries they might have, and were free to contact any teacher personally for any confusion in their study or revision. The communication and interaction took place between the students and teachers via whatsapp text messages, voice messages, and video and audio calls to ensure proper understanding.

The students were also regularly assessed through OAs done through multiple choice questions framed out in Google Forms, the link to which were sent to them through the Academic WhatsApp group. Time limit was fixed for each test and the system was locked after the stipulated time. The results were tabulated and declared on

the next day through whatsapp, the queries of the students were also answered in that platform.

After two months of online education and assessment from 29th June 2020 to 29th August 2020 following the described methods, the perception of the students regarding online education and assessment was evaluated through a survey. The questionnaire for the survey was framed by the authors. Questionnaire was checked by a group of experts in this field. Face and content value of the questionnaire were judged by them. Then the digital version of the questionnaire was created in google form and the link of which was shared to the students for their voluntary participation from 29th August 2020 to 4th September 2020. The link to participate in the survey was sent to the students in their batch whatsapp group along with a description. Participation was entirely voluntary and optional.

The survey questions that the participant's answers were divided in the following major group:

1. Details of the students such as gender, type of internet and device used
2. Queries on the student perception of DEM
3. Queries on student perception of OI
4. Queries on student perception of OA
5. Comparison of online education with offline
6. Comparison of online examination with offline

The details of the questionnaire can be found in the [Annexure 1].

Regarding DEMs, OI and OA, students were presented with questions that contained a statement, and four option to choose from a rating scale using modified Likart Scale: strongly agree, agree, disagree and strongly disagree.

If the students choose to strongly agree or agree, they were considered to be in agreement with the statement and for the other options, viz., disagree and strongly disagree, they were taken to be in disagreement.

Regarding the comparison of online vs offline mode of education and assessment, the students were presented with questions where they were to choose between online mode of education, offline mode of education, or both, and the respective choices were noted and duly tabulated.

STATISTICAL ANALYSIS

Data collected through google form was exported into google sheets first and then transferred to Microsoft Excel 2016 for further analysis of percentage of each group. Results were expressed in frequency and percentage.

RESULTS

A total 95 students out of 200 had opted to participate in the survey. There were 54 males (57%) and 41 females (43%) in the survey. Most students (n=90, 94.7%) appeared to be using their smartphones and most (n=78, 82%) were reliant on mobile internet [Table/Fig-1].

Digital Education Material (DEM)

There was variable opinion of the students regarding the effectiveness of the DEMs, with most agreeing that the DEMs are relevant (83.2%) and informative (80.7%) [Table/Fig-2].

Online Interaction (OI)

Regarding OI, a similar diverging trend was observed with most students agreeing that the OI with the teachers being prompt (77.9%), relevant (71.6%), informative (84.2%) and helpful for understanding (64.2%) but only 46.8% of them considered that OI was fulfilling their learning experience [Table/Fig-3].

Online Assessment (OA)

Regarding OA majority of the students agreed regarding all the parameters posed in the query, except 55% of students disagreed that OA was harder [Table/Fig-4].

Total students of 1 st MBBS course	Number of students who participated in the study n (%)			Type of internet connection used by the students n (%)			Type of device used by the students n (%)		
200	Total	Males	Females	Mobile internet	Broadband	Both	Mobile phone	Laptop	Tablet
	95 (47.5%)	54 (27.0%)	41 (20.5%)	78 (82.1%)	5 (5.26%)	12 (12.63%)	90 (94.74%)	5 (5.26%)	0 (0)

[Table/Fig-1]: Summarising the participating demographic and modalities of accessing the online education (n=95).

Category of response	Strongly agree n (%)	Agree n (%)	Disagree n (%)	Strongly disagree n (%)
Relevancy	11 (11.57)	68 (71.57)	13 (13.68)	3 (3.15)
Informative	16 (16.84)	61 (64.21)	13 (13.68)	5 (5.26)
Ease of understanding	5 (5.26)	46 (48.42)	32 (33.68)	12 (12.63)
Easily revisable	4 (4.21)	40 (42.10)	35 (36.84)	16 (16.84)
Fulfillment of learning objective	8 (8.42)	43 (45.26)	33 (34.74)	11 (11.57)

[Table/Fig-2]: Student perception of Digital Education Material (DEM) (n=95).

DISCUSSION

Online teaching has been increasing ever since internet came into place, and it's potential was already being assessed in the fields of higher studies [11]. However, its presence was never as widespread and important as it has become during this pandemic. As COVID-19 closed the door of the physical classroom in every institute across the world, and left everyone to improvise, often on a short notice and with little resources and know how, Online Education remained as the only possible way of education in this situation, becoming a necessity in a very short period of time [12].

Category of response	Promptness n (%)		Relevant and to the point n (%)		Informative n (%)		Helped in understanding n (%)		Effectively fulfilled learning objective n (%)	
Strongly agree	15 (15.80)	Agree: 77.9%	13 (13.70)	Agree: 71.6%	13 (13.70)	Agree: 84.2%	11 (11.60)	Agree: 64.2%	10 (10.52)	Agree: 46.8%
Agree	59 (62.10)		55 (57.90)		67 (70.52)		50 (52.36)		35 (36.90)	
Disagree	18 (18.90)	Disagree: 22.1%	25 (26.30)	Disagree: 28.4%	13 (13.70)	Disagree: 15.8%	29 (30.52)	Disagree: 35.8%	41 (43.20)	Disagree: 53.2%
Strongly disagree	3 (3.20)		2 (2.10)		2 (2.10)		5 (5.30)		9 (9.50)	

[Table/Fig-3]: Student perception of online interaction (OI) (n=95).

Category of response	A n (%)	B n (%)	C n (%)	D n (%)	E n (%)	F n (%)	G n (%)	H n (%)	I n (%)	J n (%)
Strongly agree	12 (12.63)	9 (9.47)	18 (18.94)	20 (21.05)	12 (12.63)	9 (9.47)	12 (12.63)	4 (4.21)	10 (10.52)	11 (11.57)
Agree	54 (56.84)	66 (69.47)	65 (68.42)	56 (58.94)	54 (56.84)	44 (46.31)	31 (32.63)	61 (64.21)	55 (57.89)	47 (49.47)
Disagree	23 (24.21)	16 (16.84)	10 (10.52)	16 (16.84)	20 (21.05)	27 (28.42)	42 (44.21)	24 (25.26)	24 (25.26)	25 (26.31)
Strongly disagree	6 (6.31)	4 (4.21)	2 (2.10)	3 (3.15)	9 (9.47)	15 (15.78)	10 (10.52)	6 (6.31)	6 (6.31)	12 (12.63)

[Table/Fig-4]: Student perception of online assessment (OA) (n=95).

A: All questions are within the scope of digital study materials shared
 B: Online Assessments helped in time management
 C: Assessment questions were unambiguous, clear and to the point
 D: Assessment was challenging and tested knowledge and understanding
 E: Assessment was fair and objective
 F: Assessment was effective way of assessment
 G: Assessment online was harder than regular
 H: Expected scoring was possible to be achieved in Online Assessment
 I: Felt confident in taking online examination
 J: Online Assessment was comfortable

The details are shared in the respective table.

Comparison of Online Education and Offline Education [Table/Fig-5]

It was seen that majority of the students preferred offline method of education. The same trend can be seen in the matter of examinations where the students seemed to prefer the offline examination even though most expressed their opinion that it was easier to score in online examinations.

Education	Relevance (Classes and materials stick to the point n (%))	Informativeness (Amount of info shared n (%))	Ease of understanding and comprehension n (%)	Better and complete understanding n (%)	Retention is better n (%)	Convenient n (%)	Revision easier n (%)	Prefer which mode n (%)
Online education	14, 15%	27, 28%	9, 9%	9, 9%	16, 17%	27, 28%	27, 28%	9, 9%
Offline education	58, 61%	51, 54%	74, 78%	79, 83%	68, 72%	60, 63%	57, 60%	74, 78%
Both Education/No difference	23, 24%	17, 18%	12, 13%	7, 7%	11, 12%	8, 8%	11, 12%	12, 13%

[Table/Fig-5]: Comparison of online education and offline education (n=95)

Comparison of online vs offline mode of examination [Table/Fig-6]

It appeared that in spite of recognising that online examination was easier to score in (81%), the students mostly preferred offline examination (54%) and 18% preferred both. About 28% preferred online examinations and almost half of them (48%) felt more comfortable with offline examination.

Examination	More difficult	More comfortable	Easier to score in	Prefer which type of exam
Online exam	32, 34%	36, 38%	77, 81%	27, 28%
Offline exam	46, 48%	46, 48%	12, 13%	51, 54%
Both/No difference	17, 18%	13, 14%	6, 6%	17, 18%

[Table/Fig-6]: Comparison of online vs offline mode of examination (n=95).

indicate student perception and satisfaction regarding the education given to be important for the success and acceptance of the said education, and this holds true for online education [13-15]. So, it was imperative for us to assess the perception of the students regarding the present modalities of E-learning.

As it appeared from the results, while the students have overall accepted the DEM, OI with the teachers, and OA; majority of them still preferred the offline mode of education and examination. Since interaction with the teachers was present, lack of traditional classroom socialisation and lack of proper infrastructure could be a reason for such tendencies, as was also noted by Adnan M in a similar study [16]. This trend was also noted in other studies where despite live classes were arranged and students identified positive features of Online Education, about 50% of them still preferred Offline Education [17]. However, even with these shortcomings, other studies done in similar time also supported carrying out online education for medical and dental students [8].

Thus, it is suggested that online education must be further explored and used for medical education. If done properly it can lead to comparable and potentially better results than offline method [9]. Different approaches can be taken to make it better. One study has suggested case based learning for clinical subjects can be useful [8]. Similarly, in anatomy education can be arranged around practical classes and dissection. Alternatively, more novel approaches like online virtual dissection simulation, potentially taking help from virtual reality technologies can improve knowledge and confidence of students as these approaches are shown to improve surgeon confidence in various studies [18,19].

Even without virtual reality, studies from even 1993 have indicated that interactive dissection simulation are as effective in promoting student learning and efficacy as in actual dissection, and are better in videotaped version of the same [20]. With advent of better technologies now, and the idea that once developed such infrastructure would be practically free to distribute; it has potential in revolutionising online education of anatomy.

As the COVID-19 is potentially here to stay for a protracted period, and since by the time it ceases to be a threat there shall already be a system for online education in place, it appears that in the future medical learning in India should go forward with a blended or hybrid mode of online and offline learning, which can give better results [21].

The study therefore indicates that there is ample scope for further exploration and improvement in the matter of online education. This study can help future studies to identify the feasibility and acceptance of different newer methods, adjustment to the existing methods in use, in ways that appeal more to the students. The positive features of present forms of online educations are also noted in this study, which indicate that in future when offline classes would resume, some form of online education or a hybrid of traditional and online modes can still benefit the students in regards to medical education.

This study was done during the unprecedented crisis of COVID-19 pandemic. The nature of the crisis might have influenced the students aversely towards the online mode of education. If online education took place in a normal time, the perception of the students might have been different. Reasons that could negatively affect the student perception during the pandemic were:

- There was no previous infrastructure for online learning and the faculties were not trained in online education during their trainee period as most of the conventional teaching in medical field is done offline.
- Connectivity and other technological issues
- General negative emotion towards the entire Pandemic situation and potentially associating the online education with that.

Limitation(s)

The study could have used a pilot study, which was not possible due to the nature of the pandemic.

A simultaneous control group was absent as no student could be taught offline during the same period.

CONCLUSION(S)

This study explores the perspective of the students regarding various aspects of online education and assessment. The results indicate that while most students accept online education, interaction and assessment, and can identify various positive points of the same, at the end most of them would still prefer the offline modes if it was not deemed impossible due to the pandemic. This could be reflecting the lack of student to student interaction and group discussion, missing the familiar environment of classroom teaching, and association of the online education to the unpleasant experience of the lockdown; or this could also indicate the need for change in our approach to online education. Possibly newer technologies and virtual resources such as virtual dissection can be utilised that would engage the students better. Alternatively, perhaps the present common approach of arranging online classes at specific time that mimic the traditional classes need to be changed, and the Online medical education can be made into a continuous learning experience through a digital framework where students and faculties can engage more freely and more frequently, removing the barrier of strict formalities and time schedules.

REFERENCES

- [1] Mian A, Khan S. Medical education during pandemics: A UK perspective. *BMC Medicine*. 2020;18(1):01-02.
- [2] Ferrel MN, Ryan JJ. The impact of COVID-19 on medical education. *Cureus*. 2020;12(3):e7492.
- [3] Rose S. Medical student education in the time of COVID-19. *JAMA*. 2020 Mar 31.
- [4] Arora AK, Srinivasan R. Impact of Pandemic COVID-19 on the teaching-learning process: A study of higher education teachers. *Prabandhan: Indian Journal of Management*. 2020;13(4):43-56.
- [5] Ellaway R, Masters K. AMEE Guide 32: e-Learning in medical education Part 1: Learning, teaching and assessment. *Medical Teacher*. 2008;30(5):455-73.
- [6] Tayade MC, Kulkarni NB. The Interface of technology and medical education in India: Current trends and scope. *Indian Journal of Basic & Applied Medical Research*. 2011;1(1):08-12.
- [7] Dhir SK, Verma D, Batta M, Mishra D. E-learning in medical education in India. *Indian Pediatrics*. 2017;54(10):871-77.
- [8] Mukhtar K, Javed K, Arooj M, Sethi A. Advantages, limitations and recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*. 2020;36(COVID-19-S4).
- [9] Pei L, Wu H. Does online learning work better than offline learning in undergraduate medical education? A systematic review and meta-analysis. *Medical Education Online*. 2019;24(1):1666538.
- [10] Saiyad S, Virk A, Mahajan R, Singh T. Online teaching in medical training: Establishing good online teaching practices from cumulative experience. *International Journal of Applied and Basic Medical Research*. 2020;10(3):149.
- [11] Kumar SC. Awareness, benefits and challenges of e-learning among the students of Kurukshetra University Kurukshetra: A study. *International Journal of Information Dissemination and Technology*. 2019;8(4):227-30.
- [12] Dhawan S. Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*. 2020;49(1):05-22.
- [13] Lee SJ, Srinivasan S, Trail T, Lewis D, Lopez S. Examining the relationship among student perception of support, course satisfaction, and learning outcomes in online learning. *The Internet and Higher Education*. 2011;14(3):158-63.
- [14] Lee JW. Online support service quality, online learning acceptance, and student satisfaction. *The Internet and Higher Education*. 2010;13(4):277-83.
- [15] Song L, Singleton ES, Hill JR, Koh MH. Improving online learning: Student perceptions of useful and challenging characteristics. *The Internet and Higher Education*. 2004;7(1):59-70.
- [16] Adnan M, Anwar K. Online learning amid the COVID-19 pandemic: Students' perspectives. *Online Submission*. 2020;2(1):45-51.
- [17] Singh K, Srivastav S, Bhardwaj A, Dixit A, Misra S. Medical education during the COVID-19 pandemic: A single institution experience. *Indian Pediatrics*. 2020;57(7):678-79.
- [18] Lockett GD, Lui JT, Chan S, Salisbury K, Dort JC, Youngblood P, et al. Anatomy-specific virtual reality simulation in temporal bone dissection: Perceived utility and impact on surgeon confidence. *Otolaryngology-Head and Neck Surgery*. 2017;156(6):1142-49.
- [19] Andersen SA, Foghsgaard S, Konge L, Cayé-Thomasen P, Sørensen MS. The effect of self-directed virtual reality simulation on dissection training performance in mastoidectomy. *The Laryngoscope*. 2016;126(8):1883-88.

- [20] Kinzie MB, Strauss R, Foss J. The effects of an interactive dissection simulation on the performance and achievement of high school biology students. Journal of Research in Science Teaching. 1993;30(8):989-1000.
- [21] Vallée A, Blacher J, Cariou A, Sorbets E. Blended learning compared to traditional learning in medical education: Systematic review and meta-analysis. Journal of Medical Internet Research. 2020;22(8):e16504.

PARTICULARS OF CONTRIBUTORS:

1. Demonstrator, Department of Anatomy, North Bengal Medical College, Sushrutanagar, West Bengal, India.
2. Associate Professor, Department of Anatomy, North Bengal Medical College, Sushrutanagar, West Bengal, India.
3. Senior Resident, Department of Anatomy, North Bengal Medical College, Sushrutanagar, West Bengal, India.
4. Assistant Professor, Department of Anatomy, Nilratan Sircar Medical College, Kolkata, West Bengal, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Paramita Mukhopadhyay,
Nil Ratan Sircar Medical College, 138, AJC Bose Road, Sealdah,
Kolkata-700014, West Bengal, India.
E-mail: drparamita1000@gmail.com

PLAGIARISM CHECKING METHODS: [Jan H et al.]

- Plagiarism X-checker: Oct 07, 2020
- Manual Googling: Apr 02, 2021
- iThenticate Software: Apr 12, 2021 (3%)

ETYMOLOGY: Author Origin**AUTHOR DECLARATION:**

- Financial or Other Competing Interests: None
- Was Ethics Committee Approval obtained for this study? Yes
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. NA

Date of Submission: **Oct 06, 2020**Date of Peer Review: **Oct 31, 2020**Date of Acceptance: **Apr 03, 2021**Date of Publishing: **May 01, 2021**

Survey for the effectiveness and comparison for online education

This is a survey for measuring the effectiveness and comparison of online education (During the present Covid 19 pandemic) with the older offline method of education (The regular classes that used to be taken before the Pandemic).

* Required

1. What is your gender *

Mark only one oval.

- ☐ Male
☐ Female
☐ Other: _____

2. What method of Internet connection you use *

Mark only one oval.

- ☐ Mobile Internet
☐ Broadband
☐ Both

3. What type of device you use for Online Education Primarily? *

Mark only one oval.

- ☐ Mobile Phone
☐ Laptop
☐ Tablet

4. Regarding Digital Education Materials shared with you, please provide your opinion based on your experience. *

Mark only one oval per row.

	Strongly Agree	Agree	Disagree	Strongly Disagree
Relevant to Topic and to the point: Digital Education Materials were Relevant (To the point) to the topic of study	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informativeness: Digital Education Materials were Informative (contained enough information for your study)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easily Understandable: Digital Education Materials were Understandable/Comprehensible (easy to understand)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Easy to study and revise from: Digital Education Materials were easy to Study and Revise from	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fulfills Learning Objective: Digital Education Materials successfully fulfilled Objective of your Learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Regarding the Online Interaction you had with your teachers (For clarification of doubt, better understanding from the materials shared) Please provide your opinion *

Mark only one oval per row.

	Strongly Agree	Agree	Disagree	Strongly Disagree
Online Interactions were prompt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Interactions were Relevant and to the point	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Interactions were Informative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Interactions helped your Understanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Interaction+Digital Study Materials together effectively and completely fulfilled the learning objective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Regarding the matter of Online Assessment Methods(Online Examinations) (During Covid 19 pandemic), please share your thoughts. *

Mark only one oval per row.

	Strongly Agree	Agree	Disagree	Strongly Disagree
Online Exam Questions were all within the scope of Digital Study Materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Exams helped in time management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Questions were clear and to the point (Unambiguous and Relevant)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Exams are Challenging and Tests your knowledge and understanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Exams are Fair and Objective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Exams are an Effective way of assessment of the students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Exams are Harder than regular	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You could score upto your expectations in the Online examination (Expectations of goal achievement fulfilled?)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You are confident in giving Online examination comparative to Offline ones	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You feel more comfortable in Online method of assessment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Compare the Online and Offline Method of Education on the following points. Select the one which is the best in the pointed category based on your opinion. *

Mark only one oval per row.

	Online Method of Education	Offline Method of Education	Both (No difference between the two)
Classes/Materials stick to the point of topic of study (Relevance) in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Amount of Information shared (Informativeness)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding is easier (Ease of Understanding/Comprehension)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding is better and more complete after interaction (Completeness of Understanding)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retention is better (Remembering of information)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More Comfortable and Convenient (Convenience)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Revision is easier in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You would prefer the mode of Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Compare the Online and Offline Method of Examination. Select the one which is the best match in the following points. *

Mark only one oval per row.

	Online Examination	Offline Examination	Both (No difference)
More difficult type of examination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You feel more comfortable giving which type of exam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easier to score in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
You prefer which type of examination	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Please provide your valuable feedback regarding the digital online education in your own words(Optional).
