



**CONTINGENCY GUIDELINE
FOR
MEDICAL EDUCATION DURING EMERGENCY
2021**

**Khesar Gyalpo university of Medical Sciences of Bhutan
(KGUMSB)**

Published by:

Academic Program Unit

Office of the Registrar

Khesar Gyalpo University of Medical Sciences of Bhutan

Telephone: +975 02 330648

Website: www.kgumsb.edu.bt

Copyright @ Academic Program Unit, Khesar Gyalpo University of Medical Sciences of Bhutan

All right reserved, no part of this publication may be reproduced in any form without prior permission from the Academic Affairs Unit, Office of the President, Khesar Gyalpo University of Medical Sciences of Bhutan

ACKNOWLEDGEMENT

Khesar Gyalpo University of Medical Sciences of Bhutan (KGUMSB) would like to acknowledge the Chair and esteemed members of the Academic Board of the University for reviewing and approving the University Contingency Guideline for Medical Education in Emergency. The University would also like to acknowledge the World Health Organization (WHO) Bhutan Office for the financial support. The contributions of the following officials and education professionals are also acknowledged for the development of this document.

Advisor:

Dr. Kinzang P. Tshering, President, KGUMSB

Working Team Members:

1. Dr. Karma Tenzin, Assist. Professor, FoPGM (Team Leader)
2. Mr. Chheten Gyeltshen, Specialist, OOP
3. Mr. Ugyen Wangdi, Associate Lecturer, FNPH
4. Mrs. Wangchuk Lhamo, Associate Lecturer, ABIN
5. Drungtsho Kezang Tshering, Associate Lecturer, FoTM
6. Ms. Tashi Choden, Assist. Planning officer, OOP
7. Mr. Ugyen Norbu, Dy. Chief Curriculum Officer, OOP (Program Coordinator)

Review Team Members

1. Mrs. Diki Wangmo, Registrar, OOP
2. Dr. Sithar Dorjee, Director, OOP
3. Dr. Chencho Dorjee, Dean, FNPH
4. Drungtsho Sangay Wangdi, Dean, FOTM
5. Mr. Shiva Raj Bhattarai, Dean, RTC
6. Mr. Dechen Choiphel, Dean, ABIN
7. Dr. Kuenzang Chhezom, Deputy Dean, FOPGM
8. Drungtsho Tempa Gyeltshen, Deputy Dean, FOTM
9. Mr. Wangchuk, Deputy Dean, FNPH
10. Mrs. Sonam Choki, Deputy Dean, RTC
11. Mrs. Gaga Dukpa, Deputy Registrar, BMHC
12. Ms. Tshering Yangzom, Sr. Lecturer, FNPH
13. Mr. Sangay Tenzin, Chief Program Officer, OOP
14. Dr. Karma Tenzin, Deputy Dean, FOPGM
15. Mr. Tashi Rabgay, Sr. Planning Officer, OOP
16. Ms. Pema Wangmo, Sr. Adm. Officer, FNPH
17. Mrs. Tshering Wangmo, Adm. Asstt. OOP
18. Mr. Ugyen Norbu, Dy. Chief Curriculum Officer, OOP
(Program Coordinator)

Table of Contents

1. INTRODUCTION	5
1.1 Introduction	5
2. FORMATION OF COMMITTEE AND TASK FORCE	8
2.1 High-Level Committee	8
2.2 Institute Disaster Management Team	9
3. PREPAREDNESS: PROCESS OF CURRICULUM DELIVERY	12
3.1 Adaptation of Curricular Content	12
3.2 Infrastructural Preparation	12
3.3 Capacity Development of Faculties and Students	13
3.6 Student Assessment	16
3.7 Student Support Services	18
3.8. Learners with Special Needs	19
4. MONITORING AND EVALUATION	20
5. ISSUES AND CHALLENGES	21
6. TIMELINE FOR CONTINGENCY PLAN IMPLEMENTATION	23
7. RISK AND ASSUMPTIONS	27
8. REFERENCES	29

SECTION 01

INTRODUCTION

1.1 Introduction

Disasters caused by natural hazards and pandemics have the potential to disrupt the education systems at all levels, from schools to universities.

Globally, the COVID-19 pandemic has created the largest disruption of education systems, affecting nearly 1.6 billion learners in more than 200 countries. The COVID-19 pandemic and the associated social distancing and restrictive movement policies have significantly disturbed traditional educational practices. As a result, schools, colleges, and higher educational institutes (HEIs) have, from time to time, discontinued face-to-face teachings. This has forced universities, colleges, and schools all over the world to modify their systems of delivering teaching and learning sessions through digital platforms, and online education has become the primary tool in delivering uninterrupted lessons around the globe.

Bhutan is a small mountainous country with a subsistence economy that is prone to various types of disasters. Ever since the detection of the first COVID-19 case in Bhutan on 5th March 2020, the country adopted restrictive policies, including the imposition of several rounds of blackout periods and nationwide lockdowns, as a precautionary measure to prevent the spread of the virus. All offices, schools, and HEI institutes in the country were closed during the lockdowns, and the closure has caused disruption in meaningful engagement and learning in HEIs.

Despite stringent measures taken by the government, the crisis situation due to COVID-19 and the subsequent variants,

including Delta and Omicron, continue to disrupt the education system as a whole. This has led to frequent prolonged closure of educational institutes in Bhutan that ultimately affected learners' education and achievement of the expected learning outcomes.

Consequently, the education system in the country witnessed a substantial pedagogical shift in the teaching and learning processes with the distinctive rise of e-learning, whereby teaching is undertaken remotely through digital platforms regardless of teacher-student readiness. In the process, one of the key challenges facing education in emergencies is the lack of robust online teaching infrastructure, limited exposure of teachers to online teaching, the information gap, and a non-conducive environment for learning and working from home.

In response to these challenges, the medical university developed the Contingency Guideline for Medical Education during Emergency, which is an essential step towards effectively building the resilience of medical education systems and ensuring quality and safe education for all. Since the adoption of online education will continue to persist post-pandemic period, there is a pressing need to innovate, strengthen, and implement alternative educational system and assessment strategies to promote lifelong quality education. This guideline will guide the university to develop a more resilient and responsive education system in the face of natural hazards, including pandemics, to ensure that education is maintained during emergency situations while ensuring the well-being, health, and safety of the learners and the staff.

1.2. Legal Framework

This contingency plan is prepared as per section 3.11.2 of the Academic Regulations 2021 of the university, which states, *“The implementation of curriculum during emergencies (pandemics or disasters) shall be as per the Contingency Plan*

for Education in Emergencies." The 14th Academic Board Meeting of the university also directed the formulation of a contingency plan for the university.

1.3. Scope

This contingency plan is applicable for all the institutes of the university during an emergency situation, be it a man-made or natural disaster. This is especially applicable in the situations where the conduct of on-campus academic activities involving large gatherings is not possible or restricted.

1.4. Objectives of the Contingency Plan:

1. Develop an effective emergency preparedness and response plan for education during emergencies
2. Delineate steps University must take to ensure continuity of education with minimal disruption during emergency situations.

SECTION 02

FORMATION OF COMMITTEE AND TASK FORCE

2.1 High-Level Committee

The High-Level Committee (HLC) of the university shall immediately activate implementation of a contingency plan to ensure uninterrupted delivery of education during an emergency. The HLC shall direct the entire institute to implement the contingency plan uniformly.

The HLC at the office of the president shall comprise the following members:

1. President: Chairperson
2. Registrar
3. Director, HR & Planning
4. Deans (Constituent Faculty and Affiliated Institutes)
5. ICT Officer
6. Curriculum Officer: Member Secretary

The HLC shall:

1. *Facilitate the Institute Disaster Management Team (IDMT) to conduct a needs analysis for planning and implementation of all the academic activities.*
2. *Act as central leadership in terms of academic planning and conduct of all academic activities during emergencies.*
3. *Lead planning, implementation, monitoring, and evaluation of the transition from conventional to online teaching and learning.*
4. *Mobilize resources for the implementation of the contingency plan.*

5. *Ensure proper line of reporting and communication during emergencies.*
6. *Carry out any other functions prescribed in the terms of reference (ToR).*

2.2 Institute Disaster Management Team

The Institute shall constitute Institute Disaster Management Team (IDMT) with the following members:

1. Deans: Chairperson
2. Deputy Deans (SA & AA)
3. Program Leaders/Course Coordinator
4. HR/Adm/Program Officer: Member Secretary
5. ICT Officer
6. Disaster focal person
7. Provost
8. Student Representatives

The IDMT shall:

1. Conduct needs analysis for planning and implementation of all the academic activities as per the directives from the HLC.
2. Act as central leadership at the institute level in terms of academic planning and conduct of all academic activities during the emergencies.
3. Lead planning, implementation, monitoring, and evaluation of the transition from conventional to online or other appropriate modes of teaching and learning at the institute level.
4. Act as a liaison between students and institute management on the flow of information and coordination for smooth functioning.

2.3 Conduct Needs Analysis

The HLC directed the respective IDMT to conduct the need analysis and submit the report.

The need analysis report shall include:

- *Type of programs/course*
- *Number of students in each program and level of learning*
- *Update on curricular implementation status*
- *Faculty readiness for teaching and learning during emergencies*
- *Availability of learning resources including books, Journal and other e-learning materials, including access to internet*
- *Assessment report*
- *Student support services*
- *Infrastructure readiness*
- *Sharing of resources among institutes.*

2.4 Developing Implementation Plans

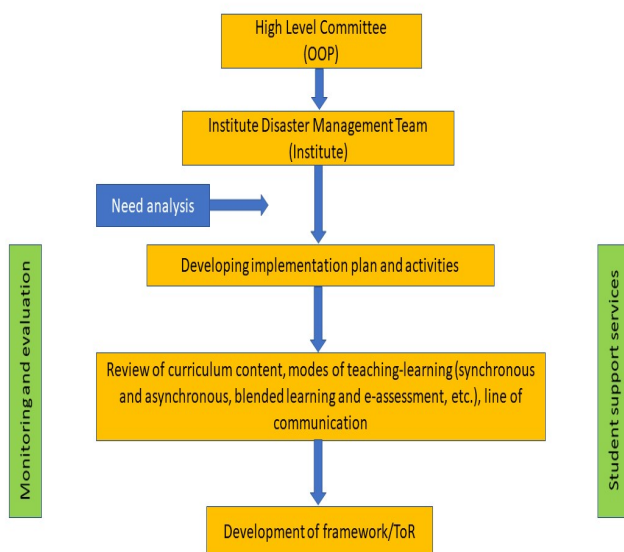


Figure: Schematic diagram of implementation plan

2.5 Flow of Information in the Emergency Situation

Step 1: Conduct the HLC meeting, and the Chair shall direct the institute to activate and implement the contingency plan through written or verbal directives.

Step 2: IDMT shall carry out the directives of the HLC and conduct academic activities as per the contingency plan.

Step 3: The Chair of IDMT shall be responsible for sharing all the information with all relevant stakeholders and beneficiaries.

Step 4: The Chair of the IDMT shall update the progress of the implementation of the contingency plan to the HLC.

SECTION 03

PREPAREDNESS: PROCESS OF CURRICULUM DELIVERY

The university shall deliver uninterrupted quality teaching, learning, and assessment activities, which are focused on eight core areas as indicated below:

3.1 Adaptation of Curricular Content

The curriculum committee of the respective institute shall agree on the curricular changes and seek approval from the academic board of the university. The adapted curriculum shall include the contents with a special focus on “*must know areas*.” The adapted curriculum shall be developed as per the implementation plan in section 06 of this document.

This plan shall include *e-learning* strategies such as online learning platforms, teaching and learning resources, simulation, discussion forums, and modes of assessment. The adapted curriculum delivery plan shall mention the modalities of synchronous, asynchronous, and blended learning with reading materials. The choice of platform should be designed based on the needs of learners and curricular content.

3.2 Infrastructural Preparation

Regular hazard assessment and corrective measures have to be undertaken every semester. The classrooms shall be equipped with basic *e-learning* infrastructure, including smart boards and VLE platforms with good access to internet connections. In

addition, there should be an adequate number of computers as part of the preparation for online or remote learning. Students should also have access to online teaching-learning resources such as e-books, e-libraries, etc.

3.3 Capacity Development of Faculties and Students

The faculty capacity-building programs for online teaching must be initiated as per the timeline (Section 6) after endorsement of this contingency plan. Despite the basic online teaching concept being introduced to the faculties and the availability of virtual learning platforms, most of the faculties are not well versed in online teaching-learning tools. Therefore, the university shall provide required training to faculties, students, and relevant staff to develop knowledge and skills in the use of e-learning.

The priority areas identified for capacity building may include the following:

- *Training on content development, access, and use of online teaching-learning resources.*
- *Training of faculty members on blended learning technique, pedagogy, content creation, online course creation, and online assessment.*

The IT support team shall facilitate production of e-learning resources and virtual platforms to conduct online teaching effectively.

3.4 Teaching-Learning Strategies

The face-to-face teaching and learning activities shall be replaced with online teaching and learning sessions.

The choice of teaching tools shall be based on

1. *Available tools and resources*
2. *Faculty's capacity (ability to conduct online teaching with various e-learning tools)*

3. *Learners need and*
4. *Curricular content.*

The teaching and learning session may be conducted as described below:

I. Theory (Knowledge): Faculty shall strive to provide teaching through synchronous, asynchronous, and blended learning sessions.

- *The institute shall provide at least 50% of synchronous sessions using Zoom, Google Classroom, VLE, TeamViewer, and interactions.*
- *The remaining 50% can be asynchronous in the form of project work, assignments, and group/individual activities with provision of reading materials and e-books.*

II. Clinical teaching

During emergencies, the following strategies may be adopted to fulfill clinical teaching requirements:

- *The number of students posted for clinical attachment at hospitals may be reduced by 50% to accommodate students in small groups as per the students' threshold.*
- *The duration of clinical posting may be reduced to a minimum of two weeks in a month with smaller groups of students posted in various units and specialties.*
- *For applied knowledge, faculty members may provide assignments, projects, and literature to be read and completed by students.*
- *For demonstrations, online tools such as Zoom, TeamViewer, Google Classroom, etc. may be used to enhance skills.*
- *Practical session: Online demonstration and return demonstration by students at their assigned time.*

- Overall the focus must be on building competencies in the “must know” areas.

The university may adopt any of the following tools to conduct online teaching-learning activities:

Purpose	Tool	Link
Discussion Forum	VLE	https://vle.fnph.edu.bt/
	Blackboard	https://www.blackboard.com/
	Moodle	https://moodle.org
	Slack	https://slack.com/
	Schoology	https://schollogy.com/
	Edmodo	https://edmodo.com/
	Flock	https://flock.com/
	Zoom	https://zoom.us/
	Blackboard Collaborate Ultra	https://help.blackboard.com/Collaborate/Ultra
	Skype	https://www.skype.com/
	Google suite	https://gsuite.google.com/products/meet/
	Gotomeeting	https://gotomeeting.com/
Online lecturing	Go webex	https://www.webex.com/
	Blue jeans	https://www.bluejeans.com/
	Loom	https://www.loom.com/
	Team viewer	https://www.teamviewer.com//
	Join.me	https://www.join.me/

III. Development of Online Teaching-Learning Materials:

- The faculty members may prepare teaching-learning materials in advance. Prerecorded audiovisual materials, including videos, recorded PowerPoint presentations (PPTs), and infographics, may be developed from real-time settings, which may be updated at least once in 3 years.
- The university and institute shall explore and facilitate access to smartphones or laptops for students to enhance e-learning.

3.5 Student Engagement and Motivation during Online Teaching

The common challenges faced while conducting an online session include lack of attention, interest, active participation, and motivation from students.

The following strategies may be adopted by the faculty members to keep students engaged and motivated:

- *Provide orientation and reorientation on e-learning tools.*
- *Spell out clear introductions, objectives, and expected outcomes of the session.*
- *Conduct pre- and post-session evaluation using Google Quizzes, Mentimeter, etc.*
- *Provide the prerecorded audiovisual content for each session.*
- *Use varieties of teaching-learning methodologies, including discussion forums, blogs, group/individual projects, and assignments.*
- *Provide tutorials on using synchronous tools (video conferences and phone calls) and asynchronous tools (forums and emails).*

3.6 Student Assessment

Assessment is an integral part of learning. It is important to institute a robust assessment mechanism, as it provides

evidence on how learners are progressing throughout and at the end of the learning period.

A university may implement the following to conduct a quality assessment:

3.6.1 Continuous Assessment

- Assignments: Mainly for the areas of the cognitive and affective domains with the focus on “must know” topics and areas. This may be done in the form of individual or group assignments, projects, reflective journals, research proposals, literature reviews, mind maps, portfolios (individual or group), and report writing.
- Session evaluation: Teacher may conduct quiz at the end of each session, oral presentation of work, and individual or group interviews
- Module evaluation: The teacher may conduct a class test online at the end of the module.

3.6.3. Summative Assessment

- Online examination with webcam on.
- *Open book examination with time limitation.*
- *Types of questions as per the standard format in the Assessment and Examination Guideline 2021.*

3.6.3. A clinical assessment may be conducted using the following:

- *Virtual OSPE/OSCE.*
- *Live demonstration.*
- *3D models/3D virtual models.*
- *E-portfolios.*
- *Recorded videos for low-fidelity skills.*

3.6.4. Thesis/Research Assessment:

- *Thesis/research projects based on clinical topics, data collection, or other works may be reoriented towards other modalities based on case studies or bibliographic or research work.*
- *University shall encourage faculty to come up with tutorials using the free and available online tools to enhance the guidance and monitoring.*
- *The submission of thesis work/projects may be adjusted as per the adapted curriculum.*
- *The defense and evaluation of the thesis may be conducted online.*

3.7 Student Support Services

The common challenges faced by students during online classes are linked to unstable internet facilities, limited IT literacy, a poor home learning environment, and restrictions on mobility, which limit their interactions with peers and teachers. These challenges cause stress, anxiety, and depression among the students.

The university shall develop strategies to overcome and mitigate the adverse impact of online learning through the following:

- *Formation of a peer support group among the students with the guidance from faculty members.*
- *Provision of psychological support and care to overcome stress, anxiety, and depression.*
- *Academic supervision, monitoring, mentoring, and coaching.*
- *Identification of dedicated counselors for the students requiring services.*
- *Engagement in recreational activities where permitted.*
- *Improvement in internet services and access.*

3.8. Learners with Special Needs

The Institutes shall consider separate arrangement for learners with special needs, where applicable.

SECTION 04

MONITORING AND EVALUATION

Monitoring and evaluation (M & E) is an integral part of any activity or project. The M&E provides evidence and information to the implementers and decision-makers to improve on the existing practice and processes. Therefore, the university shall adapt and use the existing M&E Framework and Monitoring Tools for Academic Programs 2021 to ensure the adapted curriculum is implemented effectively.

SECTION 05

ISSUES AND CHALLENGES

Online teaching and learning can be associated with inherent challenges for both faculties and students. The following are some of the challenges and issues identified:

- **Self-regulation challenges**
 - Lack of ability to control thoughts, emotions, and actions during online classes.
 - Poor time management skills during online classes.
- **Technological literacy and competency challenges**
 - Lack competence and proficiency in using various online IT tools.
 - Resistance and difficulties in learning new technology.
 - Lack knowledge and training in the use of technology.
- **Student isolation challenges**
 - Disconnected or isolated during online classes.
 - Disinterested during online class.
 - Uneasy and uncomfortable using video projection, microphones, and speakers.
- **Technological sufficiency challenges**
 - Insufficient access to learning technology.
 - Inequalities with regard to access to and use of technologies during online classes
 - No access to the Internet during online classes.
 - Poor network and slow processing speeds.
- **Technological complexity challenges**
 - Complexity of the technology during online classes.
 - Difficulties in using complex technology.

- **Learning resource challenges**
 - Insufficient access to library resources.
 - Insufficient access to laboratory equipment and materials.
 - Limited access to textbooks, worksheets, and other instructional materials.
 - Financial challenges when accessing learning resources and technology.
- **Learning environment challenges**
 - Online distractions such as social media use during online classes.
 - Distractions at home as a learning environment.

SECTION 06

TIMELINE FOR CONTINGENCY PLAN IMPLEMENTATION

The timeline and the detail activities for the contingency plan are as reflected in the table below:

Preparedness:

Activity	Responsibilities	Time	Estimated budget in Nu. (Million)
Establishment of University Committee (HLC) Institute Disaster Management Team (IDMT)	President Dean	As soon as the contingency plan is finalized (3 rd wk of Nov. 2021)	
Need assessment	IDMT	End of December 2021	
Developing an institutional work plan for implementing contingency plan based on gaps identified • Teaching learning resources • Infrastructure (IT, Capacity building)	IDMT	January 2022	
Development of “priority curricula” at institute level (including teaching	IDMT	February, March & April 2022	

learning and assessment tools)			
Standardized “priority curricula” for common programs among institutes (including teaching, learning, and assessment tools)	Registrar	April 2022	
Validation of “priority curricula”	Registrar	May, June & July 2022	
Online Content development followed by regular review and update every 3 years	IDMT	August 2022 (first version)	
Capacity building of faculty and orientation and re-orientation for students on e-learning tools Yearly orientation of new faculty and students to e-learning tools	IDMT	Ongoing & August 2022 (first version)	

Response:

Activity	Responsible	Time	Ext. Budget in Nu (Million)
Activation of HLC (Meeting 2 weekly and as when necessary)	President	Immediately after the declaration of disaster by govt.	-
Activation of working Group (Meeting weekly for at least 1 -2 months)	IDMT	Immediately after the directives HLC	-

Review the existing Preparedness plan	IDMT (for Review)/ President (HLC for approval)	Within 1 week	0.5 (data package, refreshment, etc)
Mobilization of resource, infrastructure adaptation and aligning to deliver the “priority curricula”	Dean and President	1-2 weeks	
Implementation of revised “priority curricula”	Dean	Immediately after the approval	-
Report from respective institutes: - Status - Lesson Learnt - Challenges - Creation of dashboard)	Dean	2 Weekly by individual faculty (during implementation of the revised curriculum)	-
Monitoring and Evaluation (M&E framework - Teaching learning, - Students attendance, - Use of standard tools, - Feedback, - Dashboard) Review and correctives measures under the Guidance of HLC	Registrar	Once in 3 months	

Proposed Role of Offices and Units

Office of President:

- ✓ Advise and update on emergencies situation.
- ✓ Coordinate and direct institute to endorse plan and guidelines
- ✓ Provide ongoing direction and feedbacks.

Institutes:

- ✓ Coordinate and form team for implementation of plan.
- ✓ Provide skill and capacity development for offline teaching in faculty.
- ✓ Program leader plan class schedule and collect data weekly.
- ✓ Faculty should update activities daily and report to program leader.
- ✓ Appoint respective focal persons.

SECTION 07

RISK AND ASSUMPTIONS

Assumptions of risk play a key role in responding to emergencies and disasters. The systems and processes within the university and among relevant agencies for an effective risk assumption will be established.

The assumptions are as follows:

1. Instituting clear policy directions during the emergency.
 - *The University shall draw up the human resources needs and utilization plan.*
 - *Mobilize resources for e-books, e-learning tools, and Internet packages, if required.*
 - *Faculty are ready in terms of capacity and supportive facilities.*
 - *Adequate resources to comply with public health protocol requirements.*
 - *Financial resources for Infrastructure readiness*
2. Digital capacity of faculty
 - *Online teaching technologies are relatively new in the Bhutanese context.*
 - *Faculty will require sufficient ICT skills to adapt to online teaching, dealing with uncertainties, course development, et al.*
 - *Faculty need to understand their role and responsibilities and to be fully prepared in order to teach online courses.*
3. Clinical teaching
 - *The assumption here is that students are not sent for frontline duty during the pandemic.*

Special Note: Course deferment in case of the non-fulfillment of curriculum requirements shall be as per the Academic Regulation 2021 and upon endorsement by the Academic Board of the University.

4. Engaging students to learn remotely and carry out assignment regularly;
 - *A proper grading system will be reviewed in terms of assessing students based on online learning.*
 - *The use of other online platforms to teach and interact with students.*
 - *Effective learning will also require 3D models, which will incur cost and financial burden.*

REFERENCES

1. Centre for Education and Human Resource Development, Ministry of Education, Science and Technology. (2018). *Revised contingency plan for education clusters in Nepal*. 2018. 1-49. Nepal.
2. De Silva et al. (2017). *Peer assisted learning among Sri Lankan medical undergraduates: A cross sectional study*. BMC Res Notes 10:595: 1-5.
3. Hayashi et al. (2020). *Online learning in Sri Lanka's Higher Education Institutions during COVID-19 pandemic*. Sept, 2020: 1-12.
4. National Medical Council, India. (2020). *Guidelines For re-opening of Medical Colleges post lockdown due to Covid-19 pandemic*. November 2020. 1-19.
5. Office of the Vice Chancellor, Royal University of Bhutan. (2020). *RUB response plan for COVID-19*. March 2020. 1-17.
6. Papapanou. et al. (2021). *Medical Education challenges and innovations during COVID-19 pandemic*. Postgrad Med J 2021; 0:1–7.
7. Policy and planning Division, Ministry of Education. (2020). *COVID-19 response plan. Education in emergency, Phase II*. Bhutan: Thimphu
8. Samarasekera et al. (2021). *Medical School approach to manage the current COVID-19 crisis*. Academia Medicine.
9. Taha et al. (2020). *Curriculum Delivery in Medical Education during an Emergency: A guide based on the responses to the COVID-19 pandemic*. MeEdPublish.2020: 1-13.