inpods Competency-based Medical Education

A Technology by Inpods Inc

A Cloud-based Technology to Implement CBME and Blueprinting of Question Papers

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Inpods Solutions for Competency-based Medical Education (CBME)

Context:

Competency-based medical education (CBME) is gaining momentum across the globe. The National Medical Commission (NMC) has described the basic competencies required of an Indian Medical Graduate and separately emphasized the importance of competency in attitudes and communication. Widespread adoption of a competency-based approach would mean a paradigm shift in the current approach to medical education. CBME, hence, needs to be reviewed for its usefulness and limitations in the Indian context.

Challenges:

As these developments unfold, state universities with medical colleges will face new challenges and will be answering some of these questions:

- 1. How to effectively transition from traditional academic processes to technology-driven online teaching-learning and online assessment?
- 2. How can this transition be done efficiently in a scalable way, while retaining freedom and autonomy to allow colleges to innovate by leveraging from the insights from their local environments?
- 3. How can this transformation be accelerated, on a tight schedule, but at the same time maintain academic quality, enforce curricular governance and monitor continuous quality improvement?



Emerging Needs:

A) Centralized Reference Repositories:

Need for a centralized reference repository of well-designed and curated learning modules, with mapped learning objectives and tagged with appropriate instruction methods, derived based on the competencies addressed by these modules.

Need for a Centralized reference repository of well-designed and curated assessment tools, with a rich variety of assessment methods and types, mapped to learning objectives and competencies.

Both repositories should allow collaborative design of learning modules and assessment tools with controlled access given to the approved representatives of various committees and faculty members to support their educational strategies and the process of formative and summative assessments.

B) Centralized exam paper design and delivery

Need for a centralized portal from which a COE or an individual department and their approved faculty members can selectively view, compose and/or **auto-generate and publish an exam**, on-demand, from the outcomes-mapped and well-curated assessment tool repository.

C) Centralized competency-framework design environment

Need for a design environment to develop, tailor and articulate institute's competency frameworks with a support for **mapping of outcomes at various levels.**

Need for enforcing consistency across colleges and their departments in the way they publish outcomes mapping, articulate CBME implementation plans and publish a **curriculum at-a-glance**, with **drill-down** from academic calendar to blocks alignment with phases to outcomes covered by blocks to learning experiences and assessment tools and their method types to actual syllabus of individual course modules.

D) Centrally monitored and conducted online and summative assessments

Need for a centralized **secure-online assessment system** designed to capture evidence of acquired knowledge, skills, attitude at the end of each important milestone within all the phases across all the member colleges.

E) Centralized competency-outcomes measurement and review

Need for a centralized **outcomes-analytics and reporting** system in which departments and colleges can export and upload their outcomes evidences with associated supporting documents. For the assessments

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done centrally, Colleges, individual departments and faculty members can download their own outcomes analytics reports for **data-driven learner remediation** and **program level continuous quality improvement process**. Students can access their own **progression towards graduation level competencies** to engage in their own **self-learning**.

InPods Solution

As a leading ed-tech platform and solution provider with single-minded focus on helping organizations improve academic and employability outcomes, InPods is excited to play an important role during this transition. We have experienced similar transition towards outcomes-based education in the engineering and management institutes we served over last 8 years. Our team of passionate professionals have deep insights into how technology can help organizations handle some of these challenges during and after transition.

InPods has a right suite of tools and solutions which are cloud-based, scalable, configurable and easy to use. This will help you implement online teaching, learning and online assessments in the most efficient way and provide full flexibility for you to start this process incrementally but build a road map towards what is right for the long term.

We believe that engaging with InPods as an ed-tech partner for CBME-driven online teaching, learning and online assessment will empower institution to think strategically while addressing some of these challenges. By harnessing the true potential of InPods education technology you can use this opportunity to fundamentally transform the quality of medical education provided to your learners.

We would appreciate the opportunity to present our thoughts on effective use of technology for your CBME-driven online teaching, learning and online assessment implementation and present the capabilities of our suite of ed-tech tools and solutions like:

Inpods Solutions for CBME and OBE (for NAAC) framework expansion:

- A) Competency Framework Management and Outcomes Mapping Tools (supports NMC CBME spec)
- B) Program, Course, and Assessments Design System for CBME (supports mapping)

Inpods Solutions for Assessments Tool Design and Mapping:



- C) Repository for outcomes-mapped learning objects library (supports instruction method tags)
- D) Repository for outcomes-mapped assessment tools library (supports assessment methods tag)
- E) Automatic generation of assessments/exams (supports push, pull model & integration with LMS)
- F) On-Screen evaluation of exam answer sheets (supports outcomes tags)

Inpods Solutions for Learning Management and Students-centric Learning

- G) LMS with Secure Online Assessments and Blended Learning (supports outcomes analytics)
- H) Learner Competency Profile (supports Learner progression and MSPE style reports)

Inpods Solutions for Competency Analysis (Students Portfolio / Student's Progression)

- I) Outcomes Analytics and Reporting (supports Institute, Program and Course assessments)
- J) Accreditation Management System (supports IQAC workflows, NAAC, NBA)

Inpods Competency Analysis Technology

Inpods CBME technologies are aimed to benefit the CISP and MEU team get following inputs: (few examples)

- A) Identify consistently weak competencies for each batch
- B) Document remedial actions planned to improve the SLOs and Competencies
- C) Identify improvement opportunities for assessment tools quality
- D) Track students progression towards competency attainment

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Competencies framework

Program		MBBS
Blocks	Block 1	Block 2 Block 3 Block 4 Block n
Topics	T1 T2 T4	T7 T3 T5 T6 T8
Competencies	C1, 2, 3, 4 C1, 2, 3, 4, 5	C1, 2, 3 C1, 2, 3, 4
SLOs	LO1 LO2 LO3 LOn	

Competency framework defines the goals to be measured at the highest level such as Student learning goals, or Blocks or Roles defined in the AETCOM document. This top-level goal will decide the subsequent hierarchical structure of the competency framework. The medical colleges are expected to design SLOs and Assessment Tools for each SLO, which can be the lowest level of hierarchy in the competency framework.

Inpods helps you create the extended competency framework collaboratively.



It is anticipated that this competency framework will undergo enhancements in subsequent years. Every new competency framework change for a batch may result into new version of the blueprint and must be communicated clearly to all teachers and students impacted by this change.

Topic Outcor	ne Ba	atch-wise	Topics in a Stat	tus
Select Batch	separa	Select Course	department In Dra	aft
Competency base	ed Curriculum 🛊 📘	PY - 2019 - Year I - CBC Cardiovascular Physiology		
Topic Outcor	me Institution Goal	PY - 2019 - Year I - CBC Endocrine Physiology PY - 2019 - Year I - CBC Gastro-intestinal Physiology PY - 2019 - Year I - CBC General Physiology		
Topic Outc	ome for PY - :	PY - 2019 - Year I - CBC Haematology PY - 2019 - Year I - CBC Integrated Physiology PY - 2019 - Year I - CBC Nerve PYd Muscle Physiology PY - 2019 - Year I - CBC Neurophysiology	Physiology	etency
Name 🖨	Description	PY - 2019 - Year I - CBC Renal Physiology PY - 2019 - Year I - CBC Reproductive Physiology	Associated Levels of competency	Associated Domains of learning
CBC PY 5.1	Describe the functional of heart including chamb sounds; and Pacemaker and conducting system.	PY - 2019 - Year I - CBC Respiratory Physiology Pers, tissue	KH - Knows How	Knowledge Domain of
CBC PY 5. 2	Describe the properties of muscle including its more electrical, mechanical and metabolic functions	of cardiac phology, ad	KH - Knows How	Know
CBC PY 5.3	Discuss the events occu during the cardiac cycle	rring O Topic Level Outcomes (TLO)	KH - Knows How	Knowledge

Students Progression and Learning Management

Inpods has a robust Competency Analysis platform which helps institutions govern students' progression and manage the learning process.





For CBME, the focus of the technology is to identify weaker students, weaker competencies, Topics, Systems and drive continuous improvement.

System Level report for MBBS - 2019 - Phase I - Anatomy

System 1	General
System 2	Cardiovascular System
System 3	Digestive system and Excretory system (includes Hepatobiliary)
System 4	Endocrine system
System 5	Sensory system (includes skin, eyes & ears)
System 6	Immune system, lymphatic system & Haematology
System 7	Musculo-skeletal system
System 8	Nervous system
System 9	Renal system and Urinary system
System 10	Reproductive system
System 11	Respiratory system

		Re	load
Level 1	Novice	0 - 35%	L1
Level 2	Advance beginner	35 - 50%	L2
Level 3	Competent	50 - 75%	L3
Level 4	Proficient	75 - 90%	L4
Level 5	Expert	90 - 100%	L5

Dreyfus model is used by Inpods for students' progression analysis:





inpods	G	Ŷ												
General Pharmacology - 202	2	Student	wise a	nalysi	s MBE	3S - 2	022							
🚯 Dashboard		Select Syster	n: Select -		S	Select	Select	•			▼ Apply Fli	ter	T CI	ear Fliter
Events and News						Jucket.								
Lessons	5	Search: Enter	to search recor	d										
Manage Course	3	D Studer	t System1	System2	System3	System4	System5	System6	System7	System8	System9	System10	System11	System12
L. David		Average	35.52	75.46	18.30	69.83	70.54	39.13	61.45	69.42	62.74	75.15	49.97	49.97
Report	` 1	Student	1 33.33	82.35	0.00	77.08	79.31	50.00	72.22	73.47	70.83	88.89	100.00	100.00
CBME	:	2 Student	2 33.33	70.59	0.00	62.50	62.07	50.00	50.00	63.27	58.33	55.56	100.00	100.00
	3	Student	3 33.33	82.35	0.00	79.17	79.31	50.00	72.22	75.51	70.83	88.89	100.00	100.00
CBME	< 4	Student	4 33.33	82.35	0.00	77.08	79.31	50.00	72.22	73.47	70.83	88.89	100.00	100.00
Competency Reports	, i	5 Student	5 100.00	76.47	100.00	66.67	68.97	75.00	55.56	69.39	58.33	55.56	0.00	0.00
		5 Student	6 33.33	82.35	0.00	72.92	79.31	25.00	66.67	71.43	62.50	100.00	0.00	0.00
Competency Report		Student	7 0.00	64.71	0.00	64.58	58.62	25.00	50.00	65.31	58.33	55.56	100.00	100.00
 Batch Report 	٤	Student	8 0.00	76.47	0.00	79.17	75.86	25.00	72.22	75.51	70.83	88.89	100.00	100.00
PO Report	9	Student	9 0.00	64.71	0.00	58.33	58.62	0.00	44.44	61.22	50.00	66.67	0.00	0.00
Academic Reports	< 1	0 Student	10 66.67	70.59	100.00	66.67	65.52	50.00	55.56	69.39	58.33	55.56	0.00	0.00
	:	1 Student	11 0.00	76.47	0.00	72.92	75.86	0.00	66.67	71.43	62.50	100.00	0.00	0.00
	:	2 Student	12 0.00	64.71	0.00	62.50	58.62	25.00	50.00	63.27	58.33	55.56	100.00	100.00
		3 Student	13 0.00	76.47	0.00	79.17	75.86	25.00	72.22	75.51	70.83	88.89	100.00	100.00

Each Student is analyzed for their System-wise performance

Competency-wise Students' performance at various levels and performance of each student in the Systems identified for aligned and integrated curriculum.

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inpods	Attainment. Grading calculations happ	ens at Midnight, Please	check back tomorrow for updated i	Attainment Data. (Last Co	mputed on - 3/16/2022 5	:58:32 PM) 🛛 🙁
eral Pharmacology - 2022	Graphical View	Tabular View	Attainment Detail View	Rangewise Report	Competency-Attair	nment View
Dashboard	This report show	s % of students in e	ach range for the respecti	ve Competency		
Evente and News	Competency					
		Novi	ce Advance beginner	Competent	Proficient	Expert
Lessons		Range 0	- 35 % Range 35 - 50 %	Range 50 - 75 %	Range 75 – 90 %	Range 90 – 100 %
Manage Course	Search					
Report <	PH1.1	76.6	7 0.00	10.00	0.00	13.33
Assignment Level	PH1.10	-	-	-	-	-
	PH1.11	0.0	0.00	40.00	60.00	0.00
<u>~</u> нероп	PH1.12	-	-	-	-	-
BME	PH1.2	-	-	-	-	-
	PH1.23	-	-	-	-	-
SME <	PH1.3	30.0	0.00	0.00	0.00	70.00
Framework	PH1.4	0.0	0.00	83.33	16.67	0.00
Documents	PH1.47	-	-	-	-	-
evels of Competencies	PH1.5	0.0	0 13.33	86.67	0.00	0.00
npetency Reports <	PH1.51	-	-	-	-	-
Competency Report	PH1.52	-	-	-	-	-
ods.com/Report/SectionConceptsReport#	ttabs-4 PH1.54	-	-	-	-	-

Student-wise Competency Analysis

IBBS - 2020 - Phase I - iochemistry	•	Stude	nt Syst	em Re	port -	Dreyf	fus															
Dashboard																				Do	wnload	Repor
Events and News		Select Per	formanc	e:	Selec	Select options +			•	Select Bucket: Select options						•						
Lessons		Select Sub	ject Res	ult :	Selec	t optior	ns		•	Select O	verall R	esult :	Select o	ption	5		•	TA	pply Flit	er 🗖	7 Clear F	liter
Assignments		Level 1: 1 Ranges:0	lovice	Level	2: Adva	ance beg	ginner	Lev	el 3: C	ompeter	nt L	evel 4: F	Proficien	t L R	evel 5:	Experi 90 - 10	t DO					
🛃 Report 🗸 <		Rungesto		nung					1903.30	, , ,		unges./	5 50		unges.							
- 🕼 Assignment Level	11	D Student	BI1.1	BI10.1	BI10.2	BI10.3	BI10.4	BI11.17	BI11.7	BI12.5	BI16.13	BI16.14	BI16.3	BI2.1	BI2.4	BI2.6	BI2.7	BI3.1	BI3.10	BI3.3	BI3.4	BI3.9
Report		Average	51.83	37.65	57.07	62.95	76.8	38.4	67.25	56.2	58	58	32.8	51.2	75.67	62.4	56.2	41.2	56	69.81	61.6	72.95
	1	Student 1	58.33	62.5	66.67	62.5	100	0	62.5	70	0		100	100	87.5	100	70	0		82.5	60	75
BME	2	Student 2	58.33		66.67	75	50	0	100	85	0		100			100		50	100	90	73.33	87.5
CBME <	4	Student 3	16.67	0		50	0		75		0		0	100			20	50	100	95	50	0
	5	Student 5	41.67	87.5	100	75	100	0	87.5	50	100	100	0	100	82.5	100	50	0	100		71.67	75
- Framework	6	Student 6	41.67	0	100	50	100	0	75	75	100	100	100	0	92.5	100	75	50	0	85	70	87.5
- Documents	7	Student 7	41.67	25	66.67	75	100	100	62.5	20	0	0	0	0	32.5	100		0	0	72.5	28.33	25
 Bloom's Taxonomy 	8	Student 8	50	0	66.67	62.5	100	0	87.5	80	100	100	0	100		100	80	100	100	87.5	63.33	87.5
Performance Reports <	9	Student 9	16.67	0	66.67	62.5	100	0	25	50	100	100	0	0	15	0	50	50	100		26.67	75
- System Performance Report	1	D Student 1	58.33	75	33 33	37.5	100	100	875	80	100	100	0	100	77.5	100	80	50	100	875	80	75
Deteb Desert	1	2 Student 1	53.55	27.5	22.33	62.5	50	100	125	10	0	0		0	95	0	10	0	100	07.5		75
Batch Report	1	3 Student 1	30	- 57.5	33.33	62.5	50	100	12.5	10	0	0			- 65		10		100	82.5	55	13

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Topic-wise analysis

AN - Block 7 - Consolidated - Year I - 2019	Domain	Analysis Report	Торіс	: Analysis Report	System Analy	sis Report	Assignment Wise R	eport Com	petency Attainment I	Report	
鍲 Dashboard	Percenta	age Change Report									
Events and News									Do	ownload Pri	int
🖴 Lessons						Fa	ıst Learner (75 – 100)	% Normal Lear	ner (36 – 74) % Slow i	Learner (0 – 35	5) %
Assignments	Sr	Name of the	Roll			Deveenteen of	marke for each Tania			Ave of Topic	
🗠 Report	No. *	student	No	General anatomy +	General Histolo ¢	Lower limb	General embry	Upper limb	Head and neck +	Over All	•
СВМЕ	1		19020100	1 36.36%	80.00%	60.71%	45.45%	67.24%	70.37%	62.50%	
CBME <	2	-	19020100	2 68.18%	85.00%	75.00%	72.73%	93.10%	85.19%	81.90%	
CBME Config <											
Competency Reports <	3		19020100	3 9.09%	10.00%	35.71%	9.09%	32.76%	46.30%	30.17%	
System-Topic-Domain Report ~	4		19020100	4 22.73%	60.00%	39.29%	45.45%	29.31%	16.67%	32.33%	
- Reports	5		19020100	5 97 97%	50.00%	27 50%	13 84%	43.10%	79.63%	46 55%	-
	5		19020100	5 <u>21.217</u> 6	30.00%	37.30%	13.04%	43.10%	18.03%	40.0076	
mahe.inpods.com/#tabsManage-3	6		19020100	6 40.91%	40.00%	48.21%	31.82%	36.21%	46.30%	41.81%	

Item-wise Analysis

inpods	G	୍ଦୁ) de <mark>al</mark> Co	mpeten	y Re	port								
al Pharmacology - 20	22	lt	em Analy	sis Repo	rt									
Dashboard		Reload	1											
vents and News		Total Possible Points:			100)	Media	an Score	:	5	Maxin	num Score:		10
25005		Total Stduents:			30		Mean	Score:		5.07	Minim	um Score:		1
lanage Course		Standard Deviation:				9	Relia Coeff	bility icient(K	R20):	0.53	Range	of Score:		9
Benort	<	Item	Difficulty		<0.	25: Very	Hard 0.2	25-0.50:	Average 0.5	0–0.75: Good	>0.75: Very	/ Easy		
lepon		Discr	imination		<0.	20: Poor	Discrimi	nation 0	.20-0.34: G	ood Discrimina	ation >0.35:	Excellent D	liscriminati	on
ЛЕ				Correct	Correct	R	lesponse Fi	requencie	s \$	Non	C	orrect Group	Reponses	
ME	<	No. \$	Question #	Correct Answer	A \$	В \$	С \$	D ¢	Functional ¢ Distractor	# Attempted + Count	Upper 27% \$	Lower ÷	Item Difficulty [‡]	Discrimination
mpetency Reports	<	1	Q1	В	50 (15)	13.33 (4)	26.67 (8)	10 (3)		30	13.33 (4)	0 (0)	0.13	0.27
ademic Reports	<	2	Q2	В	0 (0)	50 (15)	23.33 (7)	26.67 (8)	А	30	3.33 (1)	0 (0)	0.03	0.07
		3	Q3	С	0 (0)	50 (15)	23.33 (7)	26.67 (8)	А	30	23.33 (7)	0 (0)	0.23	0.47
		4	Q4	В	50 (15)	13.33 (4)	26.67 (8)	10 (3)		30	13.33 (4)	0 (0)	0.13	0.27
		5	Q5	В	0 (0)	53.33 (16)	26.67 (8)	20 (6)	А	30	26.67 (8)	10 (3)	0.37	0.33
		6	Q6	A	0 (0)	50 (15)	23.33 (7)	26.67 (8)	А	30	0 (0)	0 (0)	0	0

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Competency-wise Analysis of a Cohort



Above charts show how inpods can start showing gaps in competencies and also show who the weak students are. It helps teachers a lot to understand what remedial actions to plan.



Inpods Skill-Eval Mobile App

Inpods SkillEval Mobile app for Android and iPhone. This SkillEval app is designed to help teachers evaluate the competencies of the students based on the assignments, rubric and a checklist. This application is particularly useful to measure and document student's performance on procedural skills in the clinical or laboratory settings.





Inpods Assessment Quality Management System (For Competency-based Assessments)

As CBME promises greater accountability, the assessment needs to be robust and multifaceted. The conclusions drawn from the formative assessments in CBME would be important for the teachers and the students.

CBME focuses on six key features of effective assessment:

- 1. Assessment needs to be continuous and frequent. This is so that more formative assessments can take place to guide the student's progress.
- 2. Assessment must be competency-based, using a developmental perspective. Thus, a student would not be deemed competent, merely because he is better than the rest, but only if and only when his performance matches a certain minimum required standard of care.
- 3. Assessment needs to be largely skills-based. Although simulation can be used in the early phases for assessment and feedback, direct observation, and assessment of authentic clinical encounters would be an essential component of CBME.
- 4. Assessment tools themselves must meet certain minimum standards of quality in terms of validity, reliability, acceptability, educational impact, and cost-effectiveness.
- 5. *More qualitative approach to assessment must be incorporated.* Judgments and feedback from experts are more meaningful than numbers, scores, or grades.
- 6. Assessment should draw upon the wisdom of a group, and the studens should be actively involved in their own assessment process. This means that a greater use needs to be made of multiple tools of assessment such as mini-clinical evaluation exercise, direct observation, multisource feedback, and records of clinical work such as logbooks and portfolios.

Formative assessments with feedback, largely work-based, would form the backbone of CBME. To shape the development of the student in the right direction, frequent assessments with qualitative feedback from teachers would be required. Assessment may not always be objective, and we should be prepared for subjective assessment by experts. These have been found to be reliable and provide more meaning and direction to the learner than numeric scores. In other words, we would be required to give up the insistence for objectivity in assessment, as it is the subjective judgments and feedback by experts which will have a high educational impact, crucial for the success of CBME.

(Ref https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5178056)



Keeping the above six assessments goals at the center stage, Inpods designed and developed a multidimensional Assessment Quality Management System for creating a repository of Assessment tools for formative and summative assessments.

Inpods AQMS gives an interface to design a wide variety of questions and assessment types with a full support for automated and secure examination paper generation using a "Blueprint". The type of questions include, MCQs, LAQs, LEQs, SAQs, SEQs, etc.



Question Banks design in which the questions could be mapped to Miller scale, competencies, topics, etc.

→ O	om/v1/qb/question/5621						Q	to	£∎	۲	۲	
								1				
	Question Settings						8	^				
	Department	Community Medicine	Program	MBBS	Course	Physiology - 2020						
	Question Type	Descriptive LEQ	Max Marks	10								
	Competency	PY1.5	Content Area	Blood	Is Core	Yes						
			Sub Topic	RS.								
	Difficulty Level	Easy	Cognitive Level	Recall	Question Category	High						
	Answer Time (n mindes)	5	Expected Answer Length (n work)	0 words	Requirements							
	Current Status	Draft	Marked for deletion	No								
	Author (Email)		Last Update	January 11th 2022, 2:16:07 pm								
		⊾ → Ş- m = ■	$\square \equiv \equiv \Omega f_{\mathbf{r}} \not\in [$	X B Source								
	B I 5 I, ;=	:II - IE - 年 99 Styles	• Format • ?									
	Draft DescriptiveLEQ Qu	estion										



The CoE or Course Coordinator can design Question Paper templates to ensure coverage of various topics, sub-topics, and competencies and appropriate mix of difficulty levels.

Question # :		Question Type :		Marks :		DifficultyLevel :	×
14		Multiple Choice	~	1		Difficult	~
CognitiveLevel :		Question Category :		Is Core?			
Apply		High	*	Yes	~		
Competency :		Topics :		Sub Topics :			
PY6.1	× *	RS	× •	GP.	× +		
Question # :		Question Type :		Marks :		DifficultyLevel :	×
15		Multiple Choice	~	1		Difficult	~
CognitiveLevel :		Question Category :		Is Core?			
Apply	~	High	~	Yes	~		
Competency :		Topics :		Sub Topics :			
PY6.5	X 👻	RS	X +	Nerve Muscle physiology.	× +		
Question # :		Question Type :		Marks :		DifficultyLevel :	×
16		Multiple Choice	~	1		Difficult	~
CognitiveLevel :		Question Category :		Is Core?			
Recall	~	High	~	Yes	~		
Competency :		Topics :		Sub Topics :			
PY1.5	× +	Case vignette	X +	Blood.	× *		

Question paper can be generated by maintaining the consistency with examinations reforms policy and implementation of Competency-based Medical Education

Question List Stat	tics Audit Trail			Edit Heador
	Question Paper Print		Print and Lock Questions	
	Time : 180 Minutes		MaxMarks : 100 Marks	
	Date : 28-10-2021	Physiology - 2020 Your answer should be specific to the qu Draw neat labeled diagrams wherever	estion asked necessary	
	Multiple Choice	1 × 20 = 20 Marks		
	 Dehydration develop adults because in ch 	s more rapidly and is frequently more severe in child ildren:	iren than in	
	a) ECF volume/ICF v	volume ratio is smaller Edit	Replace	
	b) ECF volume/ICF v	volume ratio is same		
	c) Total body weight d) Total ECE volume	is larger is smaller		
		Contraction of the second s		
	 Lipoproteins in the or a) Enzymes and ion 	channels	Papiasa	
	b) Receptors for hom	nones	Replace	
	c) Polar molecules			
	d) Non-polar molecu	les		





Competency-based Learning Content- Inpods Partners

Inpods believes in creating an eco-system of Experts, Mentors, Inpods CBME technologies, and Inpods partner's technologies which are focused on enhancing the student's engagement and learning and CBME content providers.

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