

**PAKISTAN MEDICAL COMMISSION,
G-10/4, MAUVE AREA,
ISLAMABAD**



MINUTES OF THE HEARING IN COMPLIANCE OF COURT ORDER DATED 21-12-2020 IN W.P.NO. 66754/2020, 66748/2020, 66765/2020, AND 66758/2020 OF THE LAHORE HIGH COURT, LAHORE

The Honourable Lahore High Court in Writ Petition No.65677/2020 vide Order dated 14.12.2020 directed the Pakistan Medical Commission to consider the objections to questions contained in the MDCAT examination raised by the Petitioner Ms. Amara Fayyaz.

The objections raised were considered by the Commission at the time of carrying out the post exam analysis and duly taken on board whereafter the final post exam analysis was issued (Annex – I)

Thereafter, the Honourable Lahore High Court vide Orders dated 21.12.2020 while disposing off the following writ petitions directed Pakistan Medical Commission to pass a decision on the Petitioners application after granting a hearing;

- i. Writ Petition No.66748/2020 instituted by Mr. Zaheerulislam
- ii. Writ Petition No.66754/2020 instituted by Mr. Muhammad Saadullah Khan
- iii. Writ Petition No.66765/2020 instituted by Mr. Ahsan Abbas Khan
- iv. Writ Petition No.66758/2020 instituted by Ms. Fatima Muhammad

The parties in the above writ petitions were issued notices to appear for a hearing. Zaheerulislam, Saadullah Khan, Fatima Muhammad and Ahsan Abbas Khan appeared along with their respective guardian/parents.

The main contention of the students was that there were questions in the MDCAT exam which either had; a) multiple correct answers, b) no correct answers, and c) out of syllabus. A list of questions had been provided in the Writ Petitions.

In addition to the above, the students also raised the following questions;

- a) Why they were not provided a carbon copy of their answer sheet or alternatively allowed have their paper rechecked in their presence.
- b) 14 grace marks were not provided to them.
- c) In some cases the result in the gazette did not match the result in the online result issued by PMC.

The students issues were heard and explained in detail for the following reasons;

1. As per international best practices in an MCQ based exam, immediately after the conclusion of the exam and the scoring a Post Exam Analysis was carried out and the result of the same has been made public (Annex-I). The Post Exam Analysis included consideration of all question and their answers on the basis of both discriminatory questions and ambiguity. Those questions falling in such categories were as per practice removed from scoring for all students. The questions listed by the students were taken into consideration at the time of the Post Exam Analysis and infact many of them were amongst the questions which were removed from scoring. It was also pointed out that the entire examination paper was evaluated to determine the Cronbach's alpha score which represents an exams internal consistently and the exam scored 0.96 out of 1.00 in the Cronbach's alpa which confirmed that it was an extremely consistent examination.



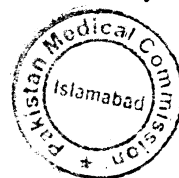
14 questions were removed from scoring in the MDCAT exam held on 29th November 2020 and 7 questions were removed from scoring in the MDCAT exam held on 13th December 2020. The list of the removed questions is attached (Annex-II and Annex-III).

There exist two options in case of removal of questions. One is to provide the result of the student on a percentile basis out of the reduced total score which would effectively lead to a score in five decimal digits. The other is to add the full marks for the removed questions to ensure the result is confined to a single decimal digit. In view of the fact that the MDCAT score would be used as a weighted part of the merit along with other scores, it was decided to add the marks and keep the MDCAT result at a single decimal digit.

Therefore, on removal of these questions all student were scored against the remaining 186 and 193 questions respectively in the two exams. Thereafter, 14 marks were added to the scores achieved by all students in the 29th November 2020 exam and 7 marks were added to the scores achieved by all students in the 13th December 2020 exam. This has been reverified by the Commission and it is confirmed that the additional marks were added to the scores of all students without fail.

2. As to the objection regarding questions being out of curriculum it was noted that students had been mainly referring to their text books or syllabus as taught in their schools. It was explained that firstly the Academic Board had ensured that for the exam a Common Curriculum was framed by using all the existing curriculum of all HSSC boards in Pakistan and retaining only common topics amongst all the curriculums. This curriculum was publicly displayed by the Commission a month before the exam. This was done to ensure no student irrespective of their location or relevant board of HSSC would not have to study beyond the prescribed curriculum. The students clearly have a lack of understanding in terms of the difference between a curriculum, syllabus and the text books. The syllabus is based on a curriculum and is designed by a teaching institution using text books of choice to teach the students the requisite knowledge and competencies enabling them to sit an exam based on the curriculum. An examining body frames an examination on the curriculum and not the text books. One student mentioned that there were questions in the exam which were not exactly as worded in their text books. It was explained that while in the past they had been relying on questions being framed as copies of what was contained in the text books, the MDCAT being an assessment exam rather than a repeat of the FSC / HSSC exam was meant to assess a student's knowledge and aptitude to manage the extremely difficult medical curriculum in college. Therefore, in fact the cognitive learning levels of students rather than their rote learning ability was being tested as medical students would be required to rely heavily on cognitive learning rather than rote learning. The questions in the exam were within the Common Curriculum and still those questions where it was found there existed some ambiguity or discriminatory factor the same were removed.
3. As to not providing carbon sheet of answer papers or allowing students to have papers checked in their physical presence it was explained that firstly it was not a standard recommended practice to provide carbon sheets of answer papers in MCQ based exams. While this practice was started by some other entities in the past, the same does not apply as a binding precedence on the Commission or demand that such practice be continued. Similarly while the Commission in fact permitted free of cost recounting of the scoring and thousands of students applied for the same and it has been done, such recounting of the scoring as a standard practice is not done in the presence of students as the scoring of MCQ exams is done through an OCR machine using a computer software which automatically counts the dots placed on the answer sheet by a student and scores it against the answer keys contained in the computer software. At one time the computer scanner machines count hundreds of papers simultaneously and hence physical presence is not only impractical but is of no consequence as the recounting of the score is done by computers. There is no human intervention in scoring at the initial stage or during recounting. This is the established standard procedure for MCQ exams and is followed in Pakistan as well.

The students were further explained that their statement that they had scored higher than their declared result was admittedly based on presumption as firstly they were relying on

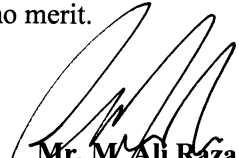


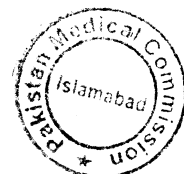
their memory to recall the 200 answers they had given hours or days earlier in the exam itself. That by itself raises a question on the standard recall ability of any person in terms of recalling exactly by memory 200 answers given in a timed exam under the general pressures of an examination environment. Therefore, the very premise of their belief that they had scored higher is merely a presumption. Furthermore, the answers they believe are correct is based on what academics or their teachers are advising them are correct answers. That may not be so and ultimately it is the examining body which frames the questions who record the correct answer. In short the students were explained that they need to consider that as students examination results have to be accepted and the integrity of an examining body specially in an MCQ based exam be taken into account. In the case of the Commission unlike most examining bodies the Post Exam Analysis was made public and it was declared openly the number of questions removed from scoring. While this was not incumbent upon the Commission it was done as part of the transparency policy.

4. It was reconfirmed for reasons already stated that the 14 marks have been added to all students scores who sat the exam on 29th November 2020 and 7 marks added to all students scores who sat the exam on 13th December 2020.
5. The question raised as to result of students being different when checked on the online result available on the PMC website which students could download using their roll number as against the 'gazette' was explained that firstly there existed no 'gazette' of the result. The only official result was what was available to students to download using the online system by inputting their roll number and their result sheet would be available which could be printed by them. The so called 'gazette' was a .pdf computer generated file of the entire result of over 121,000 students which had been placed on the website for use by colleges and not by students. However, this was apparently downloaded or attempted to be downloaded by some and due to either the large size of the file or for other reasons the downloaded version of this .pdf file which was circulated unofficially by some persons was corrupted and showed incorrect results. The Commission took down the file within 24 hours of being placed on its website due to this confusion being caused amongst students and it was made clear that the only official result was what the student acquired online using their roll number. Therefore, reliance on this so called unofficial 'gazette' was misplaced.

It was also explained that some students pointed out mistakes in their names or roll numbers which were corrected by the Commission after checking their CNIC and other material. These errors did not have any effect on their scores and were caused due to the errors made at the time of registration when entering their names etc. A similar issue had occurred when the result was initially announced and a few hundred complaints were received from students that they were present but their scores showed they were absent. As abundant precaution the entire result was reverified by the Commission. It was found that these few hundred students had unfortunately written a wrong roll number on their answer sheet which had caused a duplicate result for the same roll number while their own result was shown as absent by the computer system. This was corrected after manual verification of these students answer sheets to ensure their scores were provided.

For the above reasons, the grievances of the Petitioners were found to have no merit.


Mr. M. Ali Raza
Vice President, PMC



Annex-I

PMC MDCAT 2020 Result Analysis Report

Pakistan Medical Commission conducted National Medical and Dental Colleges Admissions Test (National MDCAT) on 29th November 2020. National University of Medical Sciences (NUMS) was given the responsibility of developing the paper. The question paper comprised of 200 Multiple Choice Questions (MCQs) with 80, 60, 40 and 20 MCQs for Biology, Chemistry, Physics and English respectively.

1. **Post Result Quality Assurance:** The statistical data was analyzed and interpreted with following Indices:
- Cronbach's alpha
 - Difficulty Index:
 - Discrimination Index:
 - Item wise Analysis


2. **Process of Post Result Analysis:**

- Cronbach's alpha(0.96)
- Difficulty Index:


Cut off Points	No. of Questions	Percentage	Interpretation
(0. 40%)	27	13.5%	Hard
(0.40-0. 65 %)	105	52.5%	Moderate
>(0.70)	68	34%	Easy

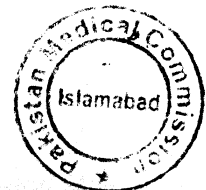
c. **Discrimination Index:**

Cut Off Points	No. of Questions	Percentage	Interpretation
<0.15	16	8%	Poor
0.15-0.24	26	13%	Good
>=0.25	158	79%	Excellent


19.12.20

Member Examination

Name: QAZI TAHIR UDDIN Signature:  Date: 14.12.2020



d. **Item wise Analysis:** A total of 66 queries were received including 15 questions from Physics, 35 from Biology, and 16 from Chemistry. Statistics of all questions were evaluated and categorized under four heads, the crux of which is presented in the following table:

Subject	Discrimination Index (<0.15)	Ambiguous Questions	Distractor Used more than Key	Total
Biology	06 (Qs. 102, 112, 123, 131, 149, 157)	01 (Q. 147)	01 (Q. 100)	08
Physics	01 (Q. 171)	04 (Qs. 164, 165, 166, 173)	-	05
Chemistry	-	01 (Q. 34)	-	01
English	-	-	-	-
Total				14

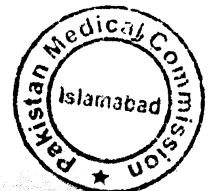
3. Recommendations:

- The items given in the table at para 2d may be deleted from the assessment
- Fourteen (14) marks may be added to the score of all candidates across the board.


14.12.20

Member Examination

Name: RAZI TAHIR UDDIN Signature:  Date: 14.12.2020



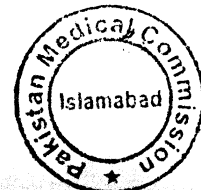
PMC Special MDCAT 2020 (13th Dec 2020) Analysis Report

1. This is with reference to the PMC Special (COVID – 19) MDCAT 2020 held on 13th Dec 2020. 205 candidates sat in the Test.
2. No complaint was received on any item in the Test by NUMS.
3. Following analysis, 07 MCQs out of the 200 are being recommended to be deleted from assessment.
4. 07 marks are recommended to be added to the score of each candidate following deletion of these 07 MCQs.
5. These questions are: -

Ser No	Code A	Difficulty Index	Discrimination Index
a.	Q 71	29.32	- 0.14
b.	Q 123	27.07	- 0.03
c.	Q 135	57.89	- 0.02
d.	Q 166	18.05	- 0.18
e.	Q 178	6.77	- 0.08
f.	Q 179	9.77	- 0.20
g.	Q 196	15.04	- 0.03

Member Examination

Name: QAZI TAHIR UDDIN Signature: *Tahir* Date: 14.12.2020



CHEMISTRY

1. IUPAC name of $C_6H_5O(CH_3)_2$ is:
- 2-Methyl-3-Hexanone
 - 2,6 – Dimethyl cyclohexanone
 - 3-Methyl cyclohexanone
 - 4-Methyl-3-hexanone

BIOLOGY

2. Which of the following is not necessary for PCR to occur?
- dATP
 - Primers
 - DNA fragments
 - Ribonucleotides
3. Which of the following is not related to enveloped virus?
- They survive for a short time
 - Their envelope is sensitive to sun light
 - They are tolerant to antibodies
 - Envelope is derived from host
4. Select an anamniote from the following:
- Snake
 - Parrot
 - Frog
 - Crocodile
5. According to the fluid mosaic model of cell membrane, which zone is embedded inside?
- Hydrophobic
 - Hydrophilic
 - Globular
 - Filamentous
6. Mono-saccharides have a general formula represented by:
- $C_n(H_2O)_n$
 - $C(H_2O)_n$
 - $C_2(H_2O)_n$
 - $C^n(H_2O)_n$
7. Which one of the following are “myogenic” type of muscles?
- Glandular muscles
 - Cardiac muscles
 - Skeletal muscles
 - Smooth muscles
8. Which of the following neurotransmitters function, both as neurotransmitter and hormones, decreasing our perception of pain?
- Epinephrine
 - Serotonin
 - Dopamine
 - Endorphins



9. **Haemophilia A and B, color blindness and testicular feminization are example of:**
- A. X-linked dominant trait
 - B. Y-linked recessive trait
 - C. Y-linked inheritance
 - D. Pseudoautosomal trait

PHYSICS

10. **The newton-second is unit of:**
- A. Work
 - B. Power
 - C. Impulse
 - D. Momentum
11. **A 1.75 m heighted weight-lifter raises weights with a mass of 50 kg to a height of 0.5m above his head. How much work is being done by him? ($g=10\text{ms}^{-2}$)**
- A. 2125 J
 - B. 2500 J
 - C. 50 J
 - D. 1225 J
12. **What is the speed of 2.0 Kg metallic bob at mean position of a simple pendulum, when released from its extreme position 0.5m high? ($g=10\text{ms}^{-2}$)**
- A. 3.16 ms^{-1}
 - B. 10 ms^{-1}
 - C. 100 ms^{-1}
 - D. 50 ms^{-1}
13. **In transmission from grid station, power losses are minimized by:**
- A. Increasing current
 - B. Decreasing current
 - C. Increasing resistance
 - D. Increasing voltage
14. **PIV stands for:**
- A. Positive inverse voltage
 - B. Power integrated voltage
 - C. Peak inverse voltage
 - D. Peak integrated voltage

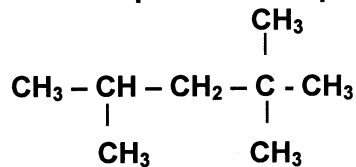


BIOLOGY

1. Which one is 'not' true for the 'acquired characters' of individuals which are often emerged by the use or disuse of organs?
- These are not passed on to the off springs of that individual
 - These are not necessarily inherited and accumulated through several generations
 - Organs can be modified by the wish or requirements of an organisms
 - These are inherited through several generation

CHEMISTRY

2. When the following alkane reacts with chlorine under UV light, how many different products are possible?



- 3
 - 4
 - 5
 - 6
3. Ester formation occurs when carboxylic acid reacts with alcohol in the presence of:
- Conc. NaOH
 - Conc. H₂SO₄
 - Dilute NaOH
 - Dilute H₂SO₄

PHYSICS

4. When length of copper wire is doubled then resistivity becomes:
- Double
 - Half
 - Remains same
 - Four times
5. The rate of radioactive decay is directly proportional to the stability of the:
- Medium
 - Atmosphere
 - Isotopes
 - Half life
6. The unit use of decay constant λ is:
- s⁻¹
 - m⁻¹
 - Kg⁻¹
 - m⁻²

ENGLISH

7. He dislikes having to maltreat his pets. The underlined phrase is:
- Verb Phrase
 - Noun Phrase
 - Participle Phrase
 - Gerund Phrase

