MBBS 2016

THE AGA KHAN UNIVERSITY

SAMPLE AKU TEST PAPER 2016

Bachelor of Medicine, Bachelor of Surgery

Section I

English

Time allowed: 1 hour

Candidate's Name: _____

Application No: _____

INSTRUCTIONS:

The Aga Khan University English test is a sophisticated test of grammar and vocabulary in academic contexts. The test consists of five sub-sections, to be completed in ONE hour.

Candidates may log on to *www.englishlanguagetesting.co.uk* for additional practice test.

Please read the following instructions carefully.

1. Make sure that you write your name and application number in the space on the question paper and OMR answer sheet.

2. Mark ONLY ONE answer to each MCQ. No credit will be given for multiple answers.

3. There are five sub-sections in this question paper.
   a. Section 1 — 15 questions
   b. Section 2 — 12 questions
   c. Section 3 — 15 questions
   d. Section 4 — 09 questions
   e. Section 5 — 09 questions

4. Attempt all questions.

5. Questions can be attempted in any order.

Name and Identity of the Student

- At the beginning of the Test you will be asked to fill in your name and application number on the answer sheet. An example of what is expected of you is shown below

Sample Answer Sheet

Full Name:	**Laila Khanum**				
Date of Birth:	Day	Month	Year	Gender:	Male or Female
Application Number:	**10495**			First Language:	
School / College:				Programme Name:	**MBBS**
Today's Date	**17**	**July**	**2016**	Test Centre:	**Karachi**

- Mark **ONE** answer choice for each question using a pencil like this:



- Only choose one answer for each question.

Discipline

The University expects honesty from applicants. Dishonest behavior during the Test or violation of instructions will result in irrevocable disqualification of the applicant from entering the selection process.

SECTION '1'

There are 15 questions in Section 1.

Choose the correct answers (A, B or C) and mark them on the answer sheet.

Look at the example below. Choose the best word to complete the space:

Asking for a pen
Student A: Do you have a pen?
Student B: Yes, there _____ a pen in my bag.

A. is
B. does
C. have

SECTION '2'

There are 12 questions in Section 2.

Choose the correct answers (A, B or C) and mark them on the answer sheet.

Look at the example below. Choose the best words to complete the spaces:

The Campus

The University has ____(i)____ very heavily in teaching and learning facilities and ____(ii)____ to ensure that we offer modern, high quality environment in which our students can live and study happily and effectively.

Space (i)
A. costed
B. invested
C. spent

Space (ii)
A. accommodation
B. accommodates
C. accommodating

SECTION '3'

There are 15 questions in Section 3.

Choose the correct answers (A, B, C, D or E) and mark them on the answer sheet.

Look at the example below. Choose the word most like the one in italics, in this example the word is registered:

"When you arrive at the university you will be *registered* at the faculty office."
Which word is closest to registered?

A. Functioned
B. Participated
C. Resigned
D. Recorded
E. Estimated

SECTION '4'

There are 9 questions in Section 4.

Choose the correct answers (A, B, C, D or E) and mark them on the answer sheet.

Look at the example below. Choose the word most often used with the one in italics, in this example the word is lounge:

"Please go to the *lounge*"
Which word is most often used with *lounge*?

A. train lounge
B. meeting lounge
C. departure lounge
D. information lounge
E. waiting lounge

SECTION '5'

There are 9 questions in Section 5, each with three or four parts. Decide if each is right or wrong in English and mark them on the answer sheet.

Example:

Each question has three parts ((i), (ii) and (iii)) or four parts ((i), (ii), (iii) and (iv)). Decide if each is right or wrong in English. None, some or all may be right. Look at the example below. ***In this example (i), (iii) and (iv) are RIGHT and (ii) is WRONG.***

(i)	Thank you for completing your application for the University of Newbury. Before you submit your forms, remember to **keep** a copy for your records.	**RIGHT**	WRONG
(ii)	Thank you for completing your application for the University of Newbury. Before you submit your forms, remember to **remain** a copy for your records.	RIGHT	**WRONG**
(iii)	Thank you for completing your application for the University of Newbury. Before you submit your forms, remember to **save** a copy for your records.	**RIGHT**	WRONG
(iv)	Thank you for completing your application for the University of Newbury. Before you submit your forms, remember to **make** a copy for your records.	**RIGHT**	WRONG

THE AGA KHAN UNIVERSITY

SAMPLE AKU TEST PAPER 2016

Bachelor of Medicine, Bachelor of Surgery

Section II

Science and Mathematics

Time allowed: 2 hours and 15 minutes

Candidate's Name: _____

Application No: _____

INSTRUCTIONS

Please read the following instructions carefully.

1. Make sure that you write your name and application number in the space above and on the given answer sheet.

2. Mark ONLY ONE answer to each question. No credit will be given for multiple answers.

3. If you change an answer, be sure that you completely erase the old answer before marking your new answer.

4. There will be 120 questions in five sub-sections:

Biology	(20 MCQs),
Chemistry	(20 MCQs),
Physics	(20 MCQs),
Science Reasoning	(30 MCQs),
Mathematics Reasoning	(30 MCQs).

5. Attempt all questions.

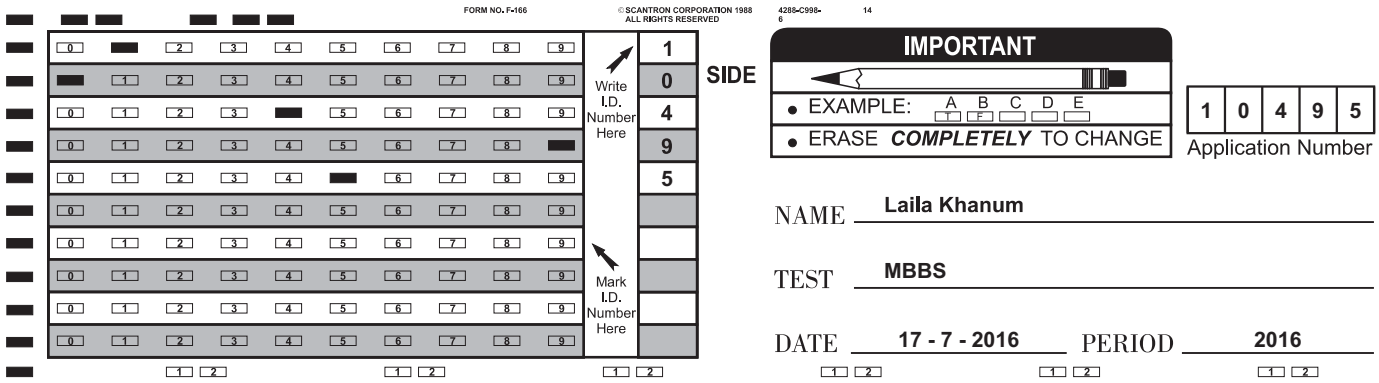
6. Questions can be attempted in any order.

7. In the Biology, Chemistry and Physics sub-section every wrong answer loses 0.25 marks.

Name and Identity of the Student

- At the beginning of the Test you will be asked to fill in your name and application number on the answer sheet. An example of what is expected of you is shown below

Sample Answer Sheet



Answering MCQs

- For all questions there is only one correct answer.

- To mark the answer on the answer sheet, darken the appropriate box as follows. If C is the correct choice for a question then your answer should be marked as under:



- On the answer sheet, disregard the little T and F in option A and B.

Discipline

The University expects honesty from applicants. Dishonest behavior during the Test or violation of instructions will result in irrevocable disqualification of the applicant from entering the selection process.

Biology

1. Diagram 1 shows a plant and a human exposed to intense sunlight.

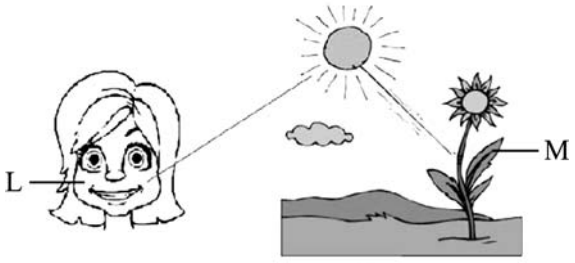


Diagram 1

Which pigment protects the parts L and M from the effect of intense sunlight?

A. Chlorophyll a
B. Chlorophyll b
C. Xanthophyll
D. Carotenoid

Answer: D

2. Diagram 2 represents a model of plasma membrane. Which of the labelled parts is hydrophobic in nature?

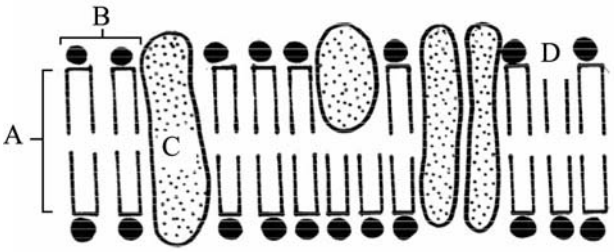


Diagram 2

Answer: A

Chemistry

3. Which of the following is a correct representation of Henderson's equation?

A. $pH = pKa - \log \frac{[salt]}{[acid]}$

B. $pH = pKa + \log \frac{[salt]}{[acid]}$

C. $pH = pKa - \log \frac{[acid]}{[salt]}$

D. $pH = pKa + \log \frac{[acid]}{[salt]}$

Answer: B

4. Which of the following carboxylic acids is more soluble in water?

A. $CH_3 — CH_2 — CH_2 — COOH$

B. $CH_3 — CH_2 — CH_2 — CH_2 — COOH$

C. $CH_3 — CH_2 — CH_2 — CH_2 — CH — COOH$

D. $CH_3 — CH_2 — CH_2 — CH_2 — CH_2 — CH_2 — COOH$

Answer: A

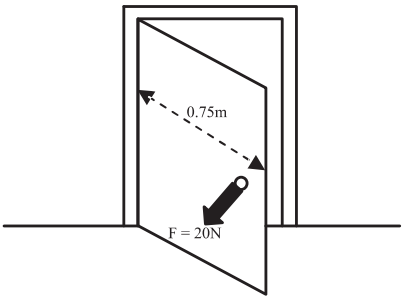
Physics

5. The mass-energy equivalence equation is $E = mc^2$. What is represented by the symbol c in this equation?

   A. The critical angle
   B. The speed of neutrons
   C. The speed of light in vacuum
   D. The specific heat capacity of the material

Answer: C

6. A force of 20 N is applied to open the door. What torque will be produced?



   A. 10 Nm
   B. 15
   C. 20 Nm
   D. 25 Nm

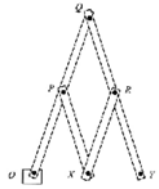
Answer: B

Science Reasoning

Questions 7-8 refer to the following information:

A pantograph is a four-bar linkage mechanism used for drawing. It consists of two long bars and two short bars pivoted to one another so that they can move freely in a plane. In the version shown in Figure 1 below, the short bars are half the length of the long ones.
The point O is held fixed. There is a pointer at X and a pencil at Y. As the pointer at X is traced over a shape, the pencil at Y draws the shape enlarged by a factor of two.

Figure 1: A Pantograph



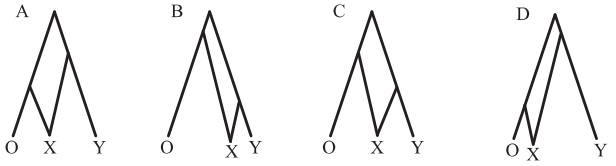
7. In Figure 1 if *O* and *Q* are both held fixed, the point *Y*

   A. cannot move.
   B. can move on a circular path.
   C. can move in a straight line.
   D. can move freely.

Answer: B

For Question 8 select the answer from the diagrams labelled A to D in Figure 2.

Figure 2



The size of the drawing traced out by the pencil depends upon the relative lengths of the bars in the pantograph.

8. Which of the pantographs in Figure 2 will produce the biggest enlargement of the original shape?

Answer: D

Question 9 refers to the following information:

9. A farmer sold apples, pears, and tomatoes by the kilogram for a total receipt of Rs. 480.00. How many kilograms of apples did the farmer sell?
Which **two** of the following statements **together** provide sufficient information to answer the question?

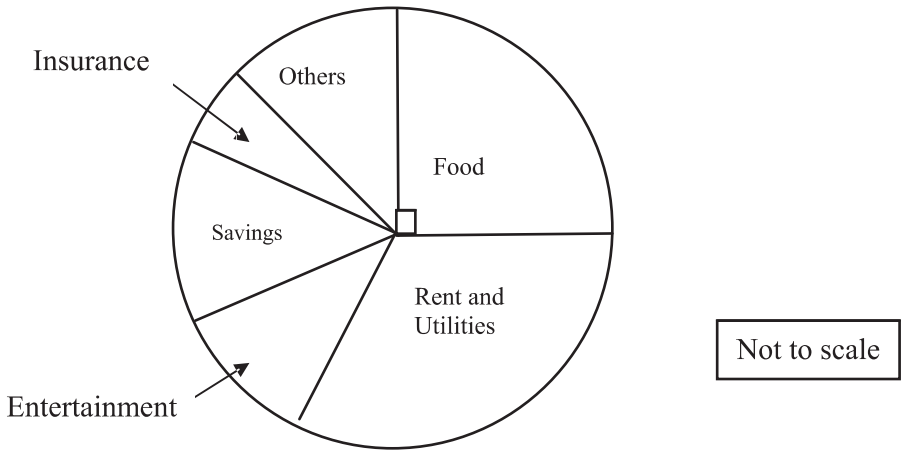
I. Apples and pears were each sold at Rs.0.50 per kilogram
II. A total of 780 kilograms of pears and tomatoes was sold.
III. The total receipt for apples was equal to the combined receipt for pears and tomatoes.
IV. The total receipt for apples was 4 times the total receipt for pears.
V. The total receipt for tomatoes was 3 times the total receipt for pears.

A. I and IV
B. II and IV
C. III and V
D. I and III

Answer: D

Question 10 asks you to compare two quantities with the help of the information given below.

Distribution of the monthly budget of Rs. 4,500 for Salim's family



Quantity X: the monthly budget for food
Quantity Y: Rs. 1,000/-

10. Based on the above information, which of the following statements is correct for X and Y?

A. Quantity X is greater than Quantity Y.
B. Quantity Y is greater than Quantity X.
C. Quantities X and Y are equal.
D. The relationship cannot be determined from the information given.

Answer: A

END OF PAPER

Please use this page for rough work