

## RECTOR'S DECREE

*Academic Year 2021/2022*  
no. 193 of 29<sup>th</sup> October 2021

### **CALL FOR APPLICATION FOR THE ADMISSION OF EU AND NON-EU STUDENTS TO THE SIX-YEAR DEGREE COURSE IN MEDICINE AND SURGERY IN ENGLISH OF SAINT CAMILLUS INTERNATIONAL UNIVERSITY OF HEALTH SCIENCES (UNICAMILLUS) FOR THE ACADEMIC YEAR 2021/2022**

#### **THE RECTOR**

- GIVEN** the Statute of the Saint Camillus International University of Health Sciences (UniCamillus);
- GIVEN** the Didactic Regulations of Saint Camillus International University of Health Sciences (UniCamillus);
- GIVEN** the Rector's Decree no. 107 of 05/11/2020 and subsequent amendments and integrations "Call for application for the admission of EU and equiparated students to the six-year Degree Course in Medicine and Surgery in English at Saint Camillus International University of Health Sciences (UniCamillus) for the Academic Year 2021/2022";
- GIVEN** the Rector's Decree no. 118 of 04/12/2020 and subsequent amendments and integrations "Call for application for the admission of non-EU students to the six-year Degree Course in Medicine and Surgery in English at Saint Camillus International University of Health Sciences (UniCamillus) for the Academic Year 2021/2022";
- GIVEN** the Ministerial Decree no. 740 of 25/06/2021, "Definition of provisional slots available for enrolment in the six-year degree courses in Medicine and Surgery (in Italian and English language)", with which 420 slots were awarded to UniCamillus for the six-year degree courses in Medicine and Surgery for the Academic Year 2021/22";
- GIVEN** the Agreement reached at the State-Regions Conference of 04/08/2021 regarding the need for surgeons in relation to the Academic Year 2021/22;
- GIVEN** the Rector's Decree no. 130 of 09/08/2021 and subsequent amendments "Call for applications for the admission of EU and non-EU students to the six-year degree course in Medicine and Surgery in English at the Saint Camillus International University of Health Sciences (UniCamillus) for the Academic Year 2021/2022" (Extraordinary session), with

which 18 vacant slots were announced for the Degree Course in Medicine and Surgery for the Academic Year 2021/2022, considering the total amount of 420 slots assigned to UniCamillus ;

**GIVEN** the Ministerial Decree no. 1071 of 01/09/2021, "Definition of slots available for enrolment in the six-year degree courses in Medicine and Surgery for the Academic Year 2021/22", with which the slots assigned to UniCamillus were reduced from 420 to 300 in relation to the Degree Course in Medicine and Surgery for the Academic Year 2021/2022;

**Considering** that UniCamillus has filed an appeal before the Lazio Regional Administrative Court (TAR Lazio) for the cancellation, after suspension of its effectiveness, of Ministerial Decree 1071/2021 where it reduced the slots assigned to the University;

**GIVEN** the Rector's Decree no. 147 of 09/09/2021 with which, following Ministerial Decree 1071/2021 and pending, as precautionary measure, the ruling of the Lazio Regional Administrative Court (TAR Lazio) on the appeal presented by UniCamillus for the cancellation of Ministerial Decree 1071 of 01/09/2021 where it reduced the slots assigned to the University, the suspension of the Rector's Decree no. 130 of 09/08/2021 "Call for applications for the admission of EU and equiparated students to the six-year degree course in Medicine and Surgery in English at the Saint Camillus International University of Health Sciences (UniCamillus) for the Academic Year 2021/2022" was decided;

**GIVEN** the precautionary order of the Lazio Regional Administrative Court (TAR Lazio) no. 5831 published on 25/10/2021 which ordered the re-determination by the Ministry of University and Research (MUR) of the number of slots to be definitively assigned to UniCamillus for the academic year 2021/22 within a maximum period of 30 days;

**Considering** that the lessons relating to the Degree Course in Medicine and Surgery for the academic year 2021/2022 began on 25 October 2021;

**Considering** therefore, the need to quickly complete the student recruitment procedure referred to in Rector's Decree no. 130 of 09/08/2021 and subsequent amendments "Call for applications for the admission of EU and equiparated students to the six-year degree course in Medicine and Surgery in English at the Saint Camillus International University of Health Sciences (UniCamillus) for the Academic Year 2021/2022" (Extraordinary session), so as to minimize the non-participation of students in the lessons;

**Considering** that the number of slots tendered could vary both in light of the scrolling of the previous rankings and in consideration of the redetermination of the slots that the MUR may assign to UniCamillus in compliance with the aforementioned order of the Lazio Regional Administrative Court (TAR Lazio);

## **DECREES**

### **Article 1**

To resume the procedure referred to in the Rector's Decree no. 130 of 09/08/2021 and subsequent amendments "Call for applications for the admission of EU and equiparated students to the six-year degree course in Medicine and Surgery in English at the Saint Camillus International University of Health Sciences (UniCamillus) for the Academic Year 2021/2022" (Extraordinary session).

### **Article 2**

This Decree with the handwritten signature is filed in the designated Registry of this University and published on the institutional website.

Rome, 29<sup>th</sup> October 2021

Sgd.THE RECTOR  
Giovan Crisostamo Profita

**CALL FOR APPLICATION FOR THE ADMISSION OF EU AND NON-EU  
STUDENTS TO THE SIX-YEAR DEGREE COURSE IN MEDICINE AND  
SURGERY IN ENGLISH OF SAINT CAMILLUS INTERNATIONAL UNIVERSITY  
OF HEALTH SCIENCES (UNICAMILLUS) FOR THE ACADEMIC YEAR  
2021/2022**

**Article 1 – Available slots and admission requirements**

Saint Camillus International University of Health Sciences, hereunder referred to as UniCamillus, has published for the academic year 2021/2022 the public call for application for the admission to the first year of the Degree Course in Medicine and Surgery in English of the Saint Camillus International University of Health Sciences (UniCamillus) for the Academic Year 2021/2022 to fill the slots resulted vacant after the last call for application:

<b>Degree Course in :</b>	<b>EU and equiparated students</b>	<b>Non-EU students</b>
Medicine and Surgery	0(*)	0(*)

(\*) The number of slots may increase in light of the scrolling of the previous rankings and the re-determination by the Ministry of University and Research (MUR) of the number of slots to be definitively assigned to UniCamillus in relation to the Degree Course in Medicine and Surgery for the academic year 2021/22, in execution of the precautionary order of the Lazio Regional Administrative Court (TAR Lazio) no. 5831 of 25 October 2021.

Citizens from Norway, Iceland, Liechtenstein, Helvetic Confederation, Republic of San Marino and Vatican City are treated as EU candidates.

Candidates in possession of a secondary school diploma on the date of the test are admitted to participate in the admission test.

For candidates who have obtained a secondary school diploma belonging to a foreign system, foreign qualifications are considered valid if obtained after at least 12 years of schooling provided that they are accompanied by the Declaration of Value issued by the Italian diplomatic representations.

In the event that the local school system provides for 11 years or 10 years of schooling, the qualification is valid if integrated with one or two years of university, provided that all the exams scheduled for those academic years have been passed.

Candidates who do not possess or do not present, within the terms indicated below, a suitable qualification, pursuant to current legislation, lose the enrolment benefit or forfeit enrolment if

already admitted and are not entitled to a refund of the amount paid.

With reference to the recognition of foreign qualifications, the University will take into account the indications provided by the Ministry of Education, University and Research "Procedures for entry, residence and registration of foreign / international students to of higher education in Italy for the academic year 2021-2022" (<http://www.studiare-in-italia.it/studentistranieri>).

#### **NON-EU STUDENTS RESIDING ABROAD**

##### **"PROCEDURES FOR ENTRY, RESIDENCE AND ENROLMENT OF VISA APPLICANTS FOR HIGHER EDUCATION COURSES IN ITALY FOR THE ACADEMIC YEAR 2021-2022 AT HIGHER EDUCATION INSTITUTIONS"**

Non-EU students residing abroad must comply with the ministerial provision "Procedures for entry, residence and registration of students applying for visas for higher education courses in Italy for the academic year 2021-2022 at higher education institutions" available at the link:

<http://www.studiare-in-italia.it/studentistranieri>

For the procedures for obtaining a visa, please see

<http://vistoperitalia.esteri.it/home/en> and <http://www.studiare-in-italia.it/studentistranieri/>.

These procedures do not replace the enrolment in the admission test to the courses published on the UniCamillus website, but constitute a preparatory step for applying for an entry visa to Italy for study reasons.

#### **Article 2 – Application submission**

Registration for the admission test will be possible from 11 AM on Tuesday 2 November 2021 until 1 PM on Tuesday 23 November 2021.

In order to complete the registration for the admission test, each candidate needs to register on the web portal <http://www.unicamillus-admission.ilmiotest.it/> and follow the instructions.

The candidate is responsible for the information given when filling in the registration form. The presence of false, incorrect or omitted information results in the immediate exclusion from the test or, if already passed, the cancellation from the lists of those admitted.

With the submission of the registration form the candidates authorise UniCamillus to carry out checks at institutions and authorities that have issued or validated the qualifications declared.

In case of difficulty in the registration procedure, an e-mail can be sent to [admission@unicamillus.org](mailto:admission@unicamillus.org) for assistance.

For all candidates, the participation fee for the test, Euro 170.00 (one hundred and seventy), is not refundable for any reason (even in the case of failure to take the admission test).

The payment of the fee for access to the admission test does not in itself complete the registration procedure. The registration process referred to above must be completed at the same time in all its parts under penalty of exclusion.

### **Article 3 – Support for candidates with disabilities or specific disorders**

Candidates with disabilities or with specific learning disabilities (SLD), in relation to the specific difficulties attested by medical certification, can make explicit request for aids and/or additional time compared to those established for the other candidates, as well as further measures to guarantee equal opportunities in carrying out the entry test. “Candidates with disabilities” shall mean: blind candidates, suffering from absolute blindness or with a visual residual not exceeding one tenth in both eyes; deaf candidates, suffering from deafness from birth or before learning the spoken language; candidates with a civil disability percentage equal to or greater than 66%; candidates in possession of the handicap certification as from Italian Law 104/92 as amended by Italian Law 17/99. These conditions must result from an appropriate medical certification issued by a competent public health authority. The certifications will be accepted only if issued in Italian or English language.

“Candidates with SLD” shall mean: candidates with a diagnosis of dyslexia, dysgraphia, dyscalculia, dysorthography, resulting from appropriate clinical certification, issued by no more than three years by the National Health Service, or by specialists or structures accredited by the regional health service. The additional time allocated to candidates with SLD will be 30% more than the time set for admission tests, in accordance with Italian Ministerial Decree 5669/2011.

This request and the related medical documentation must be sent via registered mail with return receipt or hand delivered to the Registrar’s Office – UniCamillus University – Via di Sant’Alessandro – 00131 Rome, to be received no later than November 15<sup>th</sup> 2021.

### **Article 4 – Topics of the admission test and selection criteria**

The admission test consists of a multiple choice written test that presents five answer options, among which the candidate must identify only one, discarding incorrect, arbitrary or less probable conclusions. It consists of 60 questions delivered in English on the basis of the programs indicated in Annex A and divided as follows:

- 15 questions of logical reasoning and understanding of the text;
- 35 scientific questions (10 on biology, 10 on chemistry, 5 on mathematics and 10 on physics);
- 10 questions on humanitarian topics pending the specific humanitarian mission of the University.

The admission test will last 60 minutes.

For the evaluation of the admission test, a maximum score of 90 (ninety) points is assigned according to the following criteria:

- 1,5 point for each correct answer;
- minus 0.25 points for each wrong answer;
- 0 points for each answer not given or for multiple markings or, in any case, for all non-unique answers.

### **Article 5 – Carrying out the UniCamillus’ test**

The written test will take place on 27 November 2021 in the venue which will be published in good time on the website [www.unicamillus.org](http://www.unicamillus.org) and all the procedures and times will be detailed.

The University reserves the right to plan additional sessions, change dates, times, locations of the admission test, publication dates of the results and test delivery methods, which can also be electronically, if deemed necessary for organizational reasons and / or for national security needs.

On the day of the written test candidates must show a valid identification document according to art. 35 of the D.P.R. December 28<sup>th</sup> 2000 no. 445.

During the test the use of mobile phones, calculators, tablets, web-connecting devices and the consultation of printed books and/or manuscripts and notes is absolutely forbidden. The possession of these devices must be reported to the operators who, if deemed necessary, might keep them and return them at the end of the test.

The use of pens or other unauthorized writing instruments is forbidden.

Non-compliance with these provisions will result in the exclusion from the test or its continuation if already begun.

### **Article 6 – Final ranking list**

UniCamillus will, by 1 December 2021, publish the final ranking on the website [www.unicamillus.org](http://www.unicamillus.org), guaranteeing the anonymity of the candidates.

Candidates can verify their position in the ranking using the unique code assigned to them when registering for the admission test. Candidates who have obtained a score of less than 20 points will not be admitted, regardless of their ranking.

The winners are those candidates who exceed this score and will be placed in a useful position in reference to the number of available slots referred to in Article 1 of this call for application. In the event of a tie in the score, the candidate who obtained the highest score in the solution of humanitarian questions prevails. In the event of a further equal score, the youngest candidate will prevail.

### **Article 7 – Pre-enrolment and scrolling procedure**

Winning candidates are required to enrol online, within 5PM of the fifth working day following the date of publication of the results, presenting the documentation listed below:

- Enrolment application form (available online) addressed to the Rector, and acceptance of the UniCamillus Code of Ethics;

- Undersigned student Contract (available online);
- Digital photograph (to be uploaded); <sup>[L]</sup><sub>[SEP]</sub>
- Photocopy of an identity document and photocopy of the fiscal code (foreigners legally residing in Italy must submit a valid residence permit);
- Privacy policy (available online);
- Study waiver issued by the University of origin (if enrolled in another University); <sup>[L]</sup><sub>[SEP]</sub>
- Certification or authenticated copy of the High School Diploma or, provisionally, self-certification;
- Proof of payment of the amount of Euro 12,000.00. The last payment for enrolment in the first year equal to Euro 6,000.00 must be paid by January 31<sup>st</sup> 2022;
- Revenue stamp of Euro 16,00;
- Proof of payment of the Regional Tax (to be paid directly to Lazio Region; please refer to the instructions available at <http://www.laziodisco.it/come-fare-per/tassa-regionale-per-il-diritto-allo-studio/>).

Italian and foreign students who have obtained their high school qualifications abroad must deliver to the Registrar's Office by 31 December 2021, under penalty of exclusion, an official translation in Italian (legalised if necessary) of the qualifications, accompanied by a Declaration of Value issued by the Italian Embassy or Italian General Consulate competent for the territory in the country where the qualification was produced. Candidates not complying with the deadlines indicated above will be considered renouncing candidates and will lose the right to enrol.

Any slots not covered will be managed according to the following scrolling procedure:

- publication on the website [www.unicamillus.org/ammissioni](http://www.unicamillus.org/ammissioni) of the number of slots available for non-enrolment or waiver (reopening of the ranking);
- those admitted for "scrolling" of the ranking must proceed with the provisions of this article by 6PM of the day following the reopening of the ranking;
- the "scrolling" procedure will be repeated until the available slots are filled.

Candidates who do not comply with the above deadlines will be considered weivered and will lose the right to enroll.

Candidates enrolled according to the aforementioned procedure, who have not correctly answered at least 6 out of 10 questions respectively on Chemistry, Biology and Physics of the admission test, are admitted with Additional Educational Requirements, limited to that subject, and are required to attend a specific training course aimed at filling the education requirement identified, before taking the reference exam required by the Plan of Studies, and in any case within the first year. The fulfillment of the Additional Education Requirements will be verified by the professors holding the courses.

In the event that enrolment has been completed remotely or outside the University spaces, the

student, within the term of 14 (fourteen) days from the date of enrolment, may exercise the right to reconsider by clearly communicating to UniCamillus the willingness to waive, by registered mail with return notice. In case of exercising this right of reconsideration, UniCamillus will proceed to reimburse the student for the costs incurred for enrolment within the following 14 days, charging an amount proportional to the activities carried out up to the moment in which it has received the notice of waiver (including costs and the administration and enrolment rights incurred by the University), using the same payment methods used by the User for the initial payment, unless a different means of payment is expressly indicated.

**The payments made will not be refunded except in the cases expressly governed by the law or indicated by this Call.**

### **Article 8 - Mandatory vaccinations**

Upon enrolment, the successful candidate states his commitment to be screened, within 30 days from the enrolment:

- for tuberculin vaccination (***prova tubercolina***) performed according to the Mantoux technique, according to the guidelines on the Prevention of tuberculosis (provision 17.12.1998 of the State-Regions Conference) and by the D.P.R. 7.11.2001 no. 465, regulating tuberculosis vaccination;
- for viral hepatitis B, pursuant to Law no. 165 of 27.5.1991.

The form for this statement will be available for download from the portal of the University.

The student also declares his / her commitment to undergo any other vaccination available, from time to time deemed appropriate by the University for the safety of the student and all those with whom he / she may come into contact due to the academic activities in which their participation is required.

### **Article 9 – Procedures for waiver, transfer and abandonment of studies**

Students who wish to waive, will have to submit their study waiver request by using the University's format available at [www.unicamillus.org/it/area-studenti/](http://www.unicamillus.org/it/area-studenti/) and send it by certified email (PEC) to [office.unicamillus@pec.it](mailto:office.unicamillus@pec.it). Alternatively, they can use the online procedure by accessing the student portal (Gomp) with their credentials, by going to the section: "career> applications> study waiver application".

In the event of waiver or transfer, the amounts already paid up to the time of submitting the application for waiver or transfer will not be refunded in any case.

The student who abandons his / her studies or waives from them is in any case required to pay in full the contributions provided for by the Tuition Fees Regulations for the Academic Year in which he is enrolled.

## **Article 10 – Remarks**

In each phase of the enrolment procedure, the University reserves the right to ascertain the truthfulness of the declarations made by the candidate, in accordance with current legislation. The candidate must therefore provide all the necessary elements to allow for the appropriate checks. In the event that the documentation submitted by the candidate contains false declarations, without prejudice to the penalties provided for by the penal code and by the special laws on the matter and the declarer's exposure to the action for damages by the other parties, the enrolment will be cancelled, any benefits will be recovered and the tuition fees paid will be retained. The publication on the University website of the final ranking of candidates who have taken the test and of any scrolling is an official notification for all legal purposes to the interested parties. The University reserves the right to change dates, times, testing location and publication dates of results, clinical practice locations, both in the Region and out of the Region, and teaching methods, if it is deemed necessary for organizational reasons and / or for reasons of health safety.

Given that the lessons relating to the 2021/22 academic year started in the last week of October, the lessons already delivered will be made available to students admitted following this call for application, through the University Web App.

In case of postponement, as long as it is decided prior to the deadline for enrolment in the admission test, it will be possible to postpone the deadlines for submitting enrolment applications and, where deemed useful, consequently modify the other dates provided for in this Call. The participation in the call for application implies the full and unquestionable acceptance of the provisions contained therein, included the provisions contained in the Student Contract, published on the University website and which is integral part of this Call.

For juridical and interpretative purposes, the Call for application approved with Rector's Decree no. 193/2021, deposited and available at the Registrar's Office and written in Italian, of which a certified copy can be obtained, shall prevail.

For all matters not provided for in this Call, please refer to the Statute, the Didactic Regulations of the Degree Course and the Fees and Contributions Regulations A.A. 2021/2022 of the University.

## **Article 11 – Supervisory Committee for the regularity of the competition**

With a specific provision, a committee will be appointed in order to ensure the regular and proper performance of the operative procedures of the competition.

Vittorino Testa, director of student services - UniCamillus University, is responsible for the procedure.

## **Annex A**

### **Programs related to the questions of the admission test to the degree course in Medicine and Surgery.**

#### **Logical reasoning, problem solving and reading comprehension**

Assessment of the ability to correctly use the language and logically complete a reasoning, in a coherent way with the conditions, which are expressed in a symbolic or verbal way through multiple choice questions also formulated with short propositions, discarding the wrong, arbitrary or less probable conclusions.

Analysis of cases or problems, even of an abstract nature, whose solution requires the adoption of different forms of logical reasoning.

#### **Biology**

The Chemistry of the living organisms.

The biological importance of the weak interactions.

The organic molecules present in the organisms and their respective functions. The role of the enzymes.

The cells as the basis of life.

Cell theory. Cellular dimensions. The prokaryotic and eukaryotic cell, animal and vegetable. Viruses.

The cellular membrane: structure and functions – the transport through the membrane.

Cellular structures and their specific functions.

The cellular cycle and the cellular reproduction: mitosis and meiosis – chromosome set and chromosome maps.

Bioenergetic.

Cellular energetic value: the ATP.

Oxidation – reduction reactions of living organisms.

The energetic processes: photosynthesis, glycolysis, aerobic respiration and fermentation.

Reproduction and hereditariness.

Life-cycles. Sexual and asexual reproduction.

Mendelian genetics. Mendel laws and their application.

Classic genetics: hereditariness chromosome theory - hereditariness models.

Molecular genetics: structure and duplication of the DNA, genetics code, protein synthesis. The prokaryotic DNA. The eukaryotic chromosome structures. The gene and the regulation of the genetic expressions.

Human genetics: transmission of the mono – polyfactorial characters; autosomal heritable diseases related to X chromosome.

The biotechnologies: recombinant DNA technology and its applications.

Hereditariness and environment.

Mutation. Natural and artificial selection. Theory of evolution. The genetic basis of evolution.

Animal and human Anatomy and Physiology.

Animal tissues.

Anatomy and physiology of the human systems and apparatus and related interactions.

Homeostasis.

## Chemistry

The structure of the matter: states of matter aggregation; heterogeneous systems and homogenous systems; compounds and elements.

Ideal gas laws.

The atom structure: elementary particles; atomic number and mass number, isotopes, electronic structure of the atom of various elements.

The periodic system of the elements: groups and periods, transition elements. Periodic properties of the elements: atomic radius, ionization potential, electronic affinity, metallic character. Relations between the electronic structure, position in the periodic system and elements property.

The chemical connection: ionic connection, covalent and metallic bond. Bond energy. Bond polarity. Electronegativity. Intermolecular connections.

Fundamentals of inorganic chemistry, nomenclature and main characteristics of the inorganic compounds, oxides, hydroxides, acids, salts.

The chemical reaction and the stoichiometry, atomic and molecular mass, Avogadro number, concept of mole and its applications, elementary stoichiometric calculations, balancing of the simple reactions, different type of chemical reactions.

The solutions: solvent properties of the water, solubility, main ways to express the concentration of solutions.

Balance in the water-based solutions.

Kinetics chemical and catalysis elements.

Oxidation and reduction: oxidation number, concepts of oxidant and reducing agents. Balance of simple reactions.

Acids and bases: acid and base concept. Acidity, neutrality and basicity of the water-based solutions.

The pH. Hydrolysis. Buffer solutions.

Basics of organic chemistry: bonds between carbon atoms, rough and structure formulas, concept of isomerism. Aliphatic, alicyclic and aromatic hydrocarbons. Functional groups: alcohols, ethers, amines, aldehydes, ketones, carboxylic acids, esters, amides. Basics of nomenclature.

## Physics

The measures: direct and indirect measures, fundamental and derivate quantities, physical dimensions of the quantities, knowledge of the decimal metric system and of the Unit Measure System CGS, Technical (or Practical) (ST) and International (SI), units of measurement (names and relations between fundamentals and derivate units) multiples and submultiples (names and values). Kinematics: kinematic quantities, various motions with particular regard to the uniform rectilinear motion uniformly accelerated, uniform circular motion, harmonic motion (for all motions: definitions and relations between connected kinematic amounts).

Dynamics: vector and vector operations. Forces, moments of forces compared to a point. Moment to a torque of forces. Vectorial composition of the forces. Definition of mass and weight. Gravity acceleration. Density and specific weight. Universal gravitation law, 1<sup>st</sup>, 2<sup>nd</sup> e 3<sup>rd</sup> principles of dynamics. Work, kinetic energy, potential energy. Energetic conservation principles. Impulse and quantity motion. Conservation principle of the motion quantity.

Fluid mechanics: pression and its measurement units (not only in the SI system). Archimede principles.

Pascal principles. Stevino laws.

Terminology, thermodynamics: thermometry and calorimetry, specific heat, thermic capacity. Mechanisms of heat propagation. Change of status and latent heat. Ideal gas laws. First and second principle of thermodynamics.

Electrostatics and electrodynamics: Coulomb laws. Field and electrical potential. Dielectric constant. Capacitors. Capacitors in series and parallel. Direct current. Ohm laws. Kirchhoff principles. Electrical resistance and resistivity, resistance in series and parallel. Work, Power, Joule effects. Generators. Electromagnetic induction and alternating currents. Electric current effects (thermic, chemical, magnetic).

## **Mathematics**

Numerical sets and algebra. Natural, whole, rational, real numbers. Order and comparison; order of magnitude and scientific notation. Operations and their properties. Proportions and percentages. Power with external exponent, rational and their properties. Radicals and their properties. Logarithms (on the bases 10 and on the bases e) and their properties. Essentials of combinatorics. Algebraic expressions, polynomials. Special products, Nth power of a binomial, polynomials factor dissolution. Algebraical fraction. Equations and algebraical inequalities first and second degree. Equations system.

Functions: basic notions about functions and their graphical representations (domain, codomain, sign, maximums and minimal, growth and decreasing, etc.). Elementary functions: whole and fractional algebraic, exponential, logarithmic, goniometric. Multiple functions and inverse functions. Equations and goniometric inequalities.

Geometry: polygons and their properties. Circumference and circle. Measurements of lengths, surfaces and volumes. Isometries, similitudes and equivalences in the plan. Geometric locus. Measure of the angles in degrees e radians. Sine, cosine, the tangent of an angle and their special products. Goniometric formulas. Resolution of the triangles. Cartesian reference system in the plane. Distance of two points and average point of a segment. Equation of the line. Parallelism and perpendicularity conditions. Distance of a point from a line. Equation of the circumference, of the parabola, of the hyperbola, of the ellipse and their representation in the Cartesian plane. Pythagorean theorem. Euclid theorems (first and second).

Probability and statistics: distributions of the frequencies according to the type of character and main graphic representations. Concept of random experiment and event. Probability and frequency.

## **Humanistic culture and specific humanitarian mission of the University**

The specific humanitarian mission of the University: important issues linked to the shortage of health workers in many developing countries, diseases that are widespread in these countries, Bodies responsible for dealing with humanitarian problems, eminent figures who have made a contribution in these related fields and topics. The required knowledge of these topics is not a specialized one: a mere competence deriving from the reading of newspapers and other normal means of information that commonly give news on these topics will be sufficient. In other words,

these questions will be aimed at bringing out the interest of the candidates in the aforementioned issues which, if such interest exists, will certainly have been the subject of personal reading and study, albeit of an informative and non-specialist nature. Similarly, questions of general knowledge may be envisaged, in order to out a high level of social and humanistic culture deemed necessary for the quality of the personality of the healthcare professional trained by UniCamillus.