



UNIVERSITÀ DEGLI STUDI DI PALERMO

CALL FOR APPLICATIONS TO BE ADMITTED TO THE BACHELOR DEGREE ON NURSING -- L/SNT1 (ENGLISH COURSE) SCHOOL OF MEDICINE AND SURGERY -- ACADEMIC YEAR 2019-2020

THE RECTOR

- Given** the D.M. (Ministerial Decree) 22 October 2004, n. 270 concerning the "Amendments to the Regulation on the didactic autonomy of Universities approved by the decree of the Ministry of University and of scientific and technological research n. 509 dated 3rd November 1999;
- Given** the DD.MM. issued on 16th March 2007 with which, according to the aforementioned decree n.270/2004, the classes of degree courses and degrees courses have been defined;
- Given** the Decree of the Ministry of Education, University and Research n. 987 dated 12 December 2016 and related amendments pursuant to D.D.M.M. n. 60/2017 and n. 935/2017, containing the rules on "Self-assessment decree, on the initial and periodic Accreditation of Degree Programmes and University locations and the periodic evaluation" as emended and revised;
- Given** the D.L. 25 July 1998, n. 286 "Consolidated text of the provisions concerning immigration regulations and rules on the status of foreigners" and subsequent amendments and, in particular, Article 39, paragraph 5;
- Given** the Law n. 341 dated 19th November 1990 laying down rules reorganising the University teaching systems;
- Given** the Law 05.02.1992, n. 104 on the assistance, social integration and the rights of persons with disabilities including general rules on socio-economic inclusion of persons with disabilities;
- Given** the Law n. 241 dated 7.08.1990, related to the new rules for the administrative procedures and the right of access to the administrative documents, as emended and revised;
- Given** the Law 264 dated 2nd August 1999 laying down rules on how to access to the University courses" as emended and revised, and in particular, articles 1, paragraph 1, letter a) and art. 4, paragraphs 1 and 1-bis;
- Given** the D.P.R. (Decree of the President of the Italian Republic) 28.12.2000, n. 445, Consolidated Act of the regulations and legislative provisions regarding the administrative documents as subsequently amended;
- Given** the D.Lgs.(Legislative Decree) 30.06.2003, n. 196, on the protection of natural persons with regard to the processing of personal data and on the free movement of such data;
- Given** the Law n. 170 dated 8th October 2010 on the Rules on specific learning disabilities in schools ";
- Given** the Decree of the Minister of Education, University and Research n. 3889 dated 7th March 2012, published on the Italian Official Journal (Gazzetta Ufficiale della Repubblica Italiana) General Section n. 79 dated 3rd April 2012, containing "Requirements for recognizing the validity of the certifications of linguistic-communicative competences in the foreign language of school staff";
- Given** the Didactic Regulation of the University of Palermo as revised with the DR n. 341/2019*;
- Given** the resolution of the Council of the School of Medicine and Surgery dated 7th December 2018 and containing rules on the "CdS Training Potential: programmed number and quota foreign students";
- Given** the resolution n. 19, dated 30th January 2019;
- Given** the resolution issued by the Academic Senate and dated 29th January 2019 related to "How to define the training offer in 2019/2020: accesses planning";
- Given** the OFA thresholds identified by the Study Courses related to the Academic Regulations (pursuant to the Ministerial Decree 270/2004);
- Given** the D.M. n. 277 dated 28th March 2019 laying down "Procedures and contents for being admitted to the degree courses and single-cycle master's degree programs with national scheduled admission Academic Year 2019/2020 ";



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Given the D.M. n. 597 June 28, 2019 laying down rules on the "Definition of the allocation of slots, addressed to candidates coming from non-EU countries, residing abroad, for all degree courses and single-cycle master's degree programs, with access planned at national level for the Academic year 2019/2020;

Considering that the subsequent publication of the Ministerial Decree "Definition of places available for enrolment in degree programs with national-level access for the Academic Year 2019/2020", could change the number of admitted candidates, foreseen in this public notice.

DECREES

Art. 1

The University of Palermo has launched a public selection for admitting **30 students** and **20 students** (restricted slot for non - EU citizens not residing in Italy) at the Bachelor Degree on Nursing (cod. 2233) -- L/SNT1 (English course) - School of Medicine and Surgery -- Academic year 2019-2020

Art. 2

The selection is open to those who have a diploma, issued by a Secondary Education Institute and a language knowledge certificate in English, at least Level B2 recognized under the Common European Framework of Reference for Languages and released by Certifying Bodies recognized by the Governments of the mother tongue countries, pursuant to art. 2 of the Ministerial Decree n. 3889/2012 as previously mentioned.

EU candidates, wherever resident and non-EU candidates legally residing in Italy can access the test in the same quota allocated for the Italian citizens, pursuant to art. 39, paragraph 5, of the Legislative Decree 25 July 1998, No. 286, as amended by art. 26 of the Law of July 30, 2002, No. 189, if holding a qualification obtained abroad and recognized as equivalent to the secondary school diploma obtained in Italy.

The selection is also open to Non-EU citizens residing abroad, according to the quota as mentioned in the art. 1. Those candidates must hold a qualification obtained abroad and required for the enrolment at the Universities of the their Residing country and acknowledged as equivalent to the secondary school diploma obtained in Italy.

For further information please refer to the "Ministerial regulations for students accessing the university courses - Academic Year 2019/20200", here fully mentioned, and please visit the website www.studiare-in-italia.it/studenti stranieri.

Art. 3

Applicants must submit their application forms online as follows:

1. Enter the page <https://studenti.unipa.it>;
2. Register and log-in;
3. Select "Student Paperwork - Pratiche studenti", then "New Paperwork - Nuova pratica", then "Competitions and Enrollment - Concorsi e immatricolazioni" and choose "Application form for restricted degree courses - Domanda di partecipazione a concorso per Corsi di Laurea a numero programmato";
4. Fill in the application form;
5. Print the application form and the copy of the proof payment of the contribution equal to € 55,00 (Euro fifty-five/00). The payment has to be done no later than 26th of August 2019, otherwise shall be excluded. The payment of the contribution can't be reimbursed, under no circumstances.



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English knowledge certificate, signed according to the art. 47 -- D.P.R. 445/2000 as per the Annex 1 attached to this public notice must be delivered no later than 26th of August 2019 at 13.00 (Italian local time):

1. *Brevi manu* delivery: at the office - Servizio Speciale per la Didattica e gli Studenti - Viale delle Scienze - Edificio 3 – 90128 Palermo. (opening hours: Monday – Wednesday- Friday from 9am to 1pm), mentioning the call for application of interest;
2. By registered mail with return receipt addressed to Servizio Speciale per la Didattica e gli Studenti - Viale delle Scienze - Edificio 3 – 90128 Palermo, mentioning the call for application of interest. Please note that proof of receipt will be the date of arrival and not of sending/shipping.
3. By certified email (PEC) to the following email address pec@cert.unipa.it.

Candidates are kindly request to keep the receipt of the payment for the contribution fee and, if requested, to show it to the General Coordination Commission or to the Person in charge of the classroom operations during the exam.

The list of candidates submitting the application forms will be published within the 3rd of September 2019 on the website www.unipa.it/2019consorsi/11.

Applications submitted not in according to what foreseen in this public notice will be rejected.

As far as the self-statements are concerned, the applicants certifying and stating false declarations will face the penal sanctions, foreseen in all circumstances of untruthful declarations, the formation or use of false documents, according to the Article 76 of D.P.R. 445/2000, as well as the forfeiture of the benefits resulting from the provision issued on the basis of the untruthful declaration, if from the audit carried out the non-truthfulness of the content of any of the statements made (art. 75 DPR December 28, 2000, no. 445) emerges and will be declared automatically lapsed from the right to enrolment.

Candidates are requested to read carefully the public notice and must comply with all the foreseen instructions.

Therefore, the applicants/candidates are the only responsible for the information they provide during the application submission process and they are also requested to verify the accuracy of given information.

If admitted, they commit themselves to comply with the procedures and instructions required for the enrolment, carefully and precisely.

Candidates certified as disable pursuant to the Law 104/1992, as amended and modified and to the Law 68/1999, may ask for the benefits as foreseen in the laws, mentioning it in the application form. Namely, it must be specified the needed support for attending the tests in relation to one's own condition, as well as the possible need for additional time for carrying out the examination tests. In such situations, they will have to produce suitable medical-health certification that specifies the essential elements relating to their condition, in order to allow the Administration to prepare tools and instruments to guarantee all they need in time.

Failure to indicate in the application of the necessary aids automatically make the Administration free of any obligations.

Moreover, **within the 26th of August at 13.00 (Italian local time)**, the candidates certified as disables must also send and or bring a written request along with the needed certifications stating their disability, by email to cud@unipa.it, or to office --Unità Operativa Abilità diverse - Viale delle Scienze - building 9 - 90128 Palermo, in order to allow an adequate organization of the requested services. After this deadline, the necessary assistance will not be provided.

Candidates, suffering from specific learning disabilities (DSA) and certified according to the law n.170/2010, must fill in the dedicated section during the submission application process. Moreover, **within the 26th August 2019 at 13.00** (Italian local time), they must send all the needed certifications, by email to cud@unipa.it and *brevi manu* to the office - Unità Operativa Abilità Diverse - Viale delle Scienze - building 9 - 90128 Palermo.

According to the art. 12 of the D.M. of 06.28.2012 n. 196, and to the art. 11 paragraph 2 of the Ministerial Decree n. 334 of 24.04.2013, candidates suffering from DSA are allowed to have an additional time to complete their examination, equal to the 30% more than the foreseen time.



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Art. 4

The Commission along with the people in charge of the classroom operations during the examination phase will be appointed by a Rector's Decree, upon the proposal by the School of Medicine and Surgery. The Decree will be published on the website <http://www.unipa.it/2019concorsi/1>.

Art. 5

The admission test will be held on the 11th September 2019 at 11.00 (Italian local time). Day, venue, and time will be published on <http://www.unipa.it/2019concorsi/11>.

No other communication and information will be sent to the interested parties.

All the candidates are requested to arrive at the examination venues, no later than 8.00 (Italian local time) otherwise excluded.

Candidates won't be admitted to perform the test, if the questionnaires have been already delivered.

This public notice is an official communication and the candidates won't receive any other information and communication.

Art. 6

According to the DM 277/2019, the test is made up of 60 **English** questions, with 5 answer choices each. The candidate must tick only one answer and reject those improper and/or not correct and/or not likely.

The exam will include questions on the following topics: General Knowledge; Logical Reasoning Skills; Biology; Chemistry; Physics and Mathematics. Attached to this public notice, each candidate will find the program subject of the exam.

The 60 questions will be as follows: 10 question of General Knowledge; 10 Logical Reasoning Skills; 18 Biology; 12 Chemistry; 8 Physics and Mathematics.

Time to perform the exam: 100 minutes. Candidates can leave the classroom after 70 minutes from the beginning of the test.

the programs subject of the exam are attached to this public notice and they form an integral part of this public notice.

Candidates may be admitted to the exam, upon presentation of a valid personal identity document. If the candidates are not on the list of admitted candidates, to be admitted, on a conditional basis, they must show the proof of payment.

Each Commission will identify the candidates, reporting the details of the identification document on specific registers.

Mobile phones, smartphones, smartwatches, tablet, iPad, Laptop, calculators and/or other similar facilities can't be brought in the classroom, otherwise shall be excluded.

Bags, backpacks, books, etc. must be left outside the classroom.

Surveillance and guardianship of the above-mentioned objects are not assured. The University of Palermo will not be responsible for any theft and/or damage and/or loss.

The candidate, found to be in possession of some of the aforementioned objects, will be immediately expelled from the classroom and excluded from the test.

Before the exam, candidates will be provided with:

- a general instruction sheet
- a registration form
- an envelope
- a marker
- an answers sheet
- a pair of adhesive barcodes
- a sealed questionnaire.

For security, confidentiality and transparency, the questionnaire will be printed in several versions, different from each other for questions and related answers. It is strongly recommended that each candidate put the corresponding letter to the assigned questionnaire on the answers sheet.

A total score of zero will be given in the absence of this marking. The test will be cancelled if the name is affixed to the card and/or if other signs of identification are found.



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Art. 7

In the assessment process, a maximum of 90 points will be awarded according to those following criteria:

- 1.5 points for each correct answer;
- minus 0.4 (-0.4) points for each incorrect answer;
- 0 points for each omitted answer.

In the event of same score, the candidate obtaining a higher score, in the solution of the questions related to the following topics, shall prevail in descending order:

- General culture and logical reasoning
- Biology
- Chemistry
- Physics and Mathematics

In case of further tie score, the younger by birth candidate will succeed.

Based on the total score, two rankings will be published one for EU and foreign candidates residing in Italy, as per art. 26 of the law n. 189/2002, and the other one for foreign candidates residing abroad.

For Biology", "Chemistry", "Physics and Mathematics" field, the General Coordination Commission will not assign Additional Educational Obligations (OFA), only if the candidate has obtained a score equal to at least 50% of the maximum score for that topics.

There are no Additional Educational Obligations (OFA), for General knowledge and the logical reasoning skills.

The Additional Educational Obligations (OFA) will be carried out according to the instructions, released by the School of Medicine and Surgery.

Art. 8

The rankings will be officially published on the website <http://www.unipa.it/2019concorsi/4>, according to deadlines set by Law 264 of 2 August 1999.

Two rankings will be published one for EU and foreign candidates residing in Italy, as per art. 26 of the law n. 189/2002, and the other one for foreign candidates residing abroad

The admitted candidates, according to the rankings drawn up as for the art. 7, will be included in the enrolment established quota. The admitted candidates will have to pay taxes and the all registration fees **within the 20th of September 2019 at 13.00** (Italian local time) otherwise shall be excluded and shall be considered quitters

Candidates are strongly recommend to meet this deadline for the enrolment. No exemption will be granted from this deadline.

To be enrolled it is requested:

1. to have own personal data and own fiscal code and personal data and fiscal code of the members of own family;
2. to have own ISEE (University) and / or income ISEE for non-EU candidates residing abroad;
3. to have e-mail address;
4. to have a digital photo card with the following characteristics: JPEG format, size 420x480 pixels, dimensions not exceeding 200 Kb, (in case of difficulty, please refer to the instructions on the STUDENT PORTAL tutorial);
5. to register and enter the web page <https://studenti.unipa.it>;
6. to log in with own credentials (username and password) and follow the instructions for the enrolment. A document will be produced in pdf format at the end of the process.
7. To print the enrolment application form and the payment slip to be paid within the foreseen deadline;
8. To deliver the enrolment application form to the following address –office: Segreteria Studenti Ed. 3 - V. le delle Scienze Palermo, **within the 20th of September 2019 at 13.00** (Italian local time).
9. It is recommend to have already the ISEE 2019 model before starting the enrolment process. the ISEE model can be requested to CAF offices or to other authorized organizations;
10. The candidate who carries out the enrolment procedure without indicating the ISEE 2019 (University) will be provisionally included in the contributions class, as indicated in the Regulation for students contribution 2019/2020, and namely the 14th class. The university ISEE 2019 must be showed and put



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in, by the 24th of December 2019, under penalty of ex-officio placement in the maximum contribution class (the 27th) without any possibility of subsequent changings and movements.

Art. 9

Candidates, that will not enrol within the 20th of September 2019 at 13:00 (Italian local time), by paying the fees and by delivering the enrolment application according to the deadline, will be deemed to have renounced, regardless of the reasons of the late enrolment.

Art. 10

Should there be any places available, the list of those entitled to enrol by scrolling the rankings will be published on 25th September 2019 on <http://www.unipa.it/2019concorsi/6>, at the disposal of the Responsible Officer.

Enrolment must take place **no later than 30th of September 2019 at 13.00** (Italian local time), under penalty of forfeiture and according to the terms of art. 8.

Should there be any places available, the list of those entitled to enrol by scrolling the rankings will be published on 4th October 2019 on <http://www.unipa.it/2019concorsi/6>, at the disposal of the Responsible Officer.

Enrolment must take place **no later than 9th of October 2019 at 13.00** (Italian local time), under penalty of forfeiture and according to the terms of art. 8.

Should there be any places available, the list of those entitled to enrol by scrolling the rankings will be published on 14th October 2019 on <http://www.unipa.it/2019concorsi/6>, at the disposal of the Responsible Officer.

Enrolment must take place **no later than 18th of October 2019 at 13.00** (Italian local time), under penalty of forfeiture and according to the terms of art. 8.

In the event of vacancies, places reserved to non-EU citizens residing abroad will be reallocated to EU students, pursuant to art. 2 paragraph 2, Ministerial Decree 597 of 28/6/2019.

The interested parties must enrol, according to the terms envisaged in article 8, within the days of the publication of the updated rankings, otherwise shall be excluded.

Beyond the aforementioned dates, in case of vacancies, the scrolling of the rankings will be managed by the Student Administrative Office, by sending e-mail to the address defined when registering.

All participants are strongly recommended to check their e-mail inbox.

Art. 11

According to the Art.5 of Law n. 241 07/08/1990, the Officer in charge of the procedure is Mrs Anna Maria Morrelae - U.O.Concorsi ed immatricolazioni.

The candidates have the right to exercise the right of access to the documents of this admission procedure according to the regulation (D.R. 664 dated 9th February 2004), pursuant to the Law of 7 August 1990, n. 241 and of the D.P.R. 352/92. The motion to access to the documents and to exercise the right to access to the documents must be submitted to the following office:

Ufficio per le Relazioni con il Pubblico dell'Amministrazione Centrale, presso l'Hotel De France, Salita dell'Intendenza n.1, (Piazza Marina), Palermo.

For all the issues, not explicitly mentioned in this public notice, please refer to the regulations, laws and the other rules in force.

This decree is an official summons: no other communication will be sent to the interested parties.

**The Rector
Prof. Fabrizio Micari**



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This document is the English version of the call for applicants, issued by D.R. (Rector Decree) n. 2279/2019 (prot. n. 68831, 09/07/2019), written in Italian. In case of doubts or misunderstandings, the Italian version is prevalent.



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ANNEX A

Program related to the admission test for master's degree courses In Medicine and surgery, in Dentistry and Dental Prosthodontics, in veterinary Medicine and to the degree courses of the health professions.

To be admitted it is required

having a general knowledge with particular relevance to the literary, historical-philosophical, social and institutional, as well as the ability to analyse written texts of various kinds and attitudes logical-mathematical reasoning skills.

Moreover, the required knowledge and skills refer to the educational paths promoted by the scholastic institutions organizing educational and didactic activities, in line with the instructions for the high schools and with the Guidelines for the technical institutes and for the professional institutes.

Above all in view of the Exams of State, the required knowledge also refers to the scientific disciplines of Biology, Chemistry, Physics and Mathematics.

General knowledge and logical reasoning

Assessment of the ability to use correctly Italian language in various contexts and for various objectives and to complete a logical reasoning, consistently with the symbolic or verbal premises, through multiple-choice questions, which are stated in symbolic or verbal form through multiple choice questions formulated also with brief propositions, discarding the incorrect, arbitrary or less probable conclusions.

The questions focus on scientific or narrative essays by classical or contemporary authors, or on current texts published in newspapers or in general or specialist magazines; they may also be related to on cases or problems, also of an abstract nature, whose solution requires the adoption of different forms of logical reasoning.

Questions related to general knowledge on issues addressed during the studies or present in current public debate, complete this assessment area.

Questions related to the historical context may concern, among other things, the aspects characterizing the twentieth century history and the present world.

For the social and institutional sphere, in accordance with national guidelines and in relation to the high-school subject "Citizenship and Constitution", the questions may concern, among other things, the Constitutional Charter, communication and mass media, the organization of the economy and political life; the different forms of state and government.

Biology

The Chemistry of Living beings.

The biological importance of weak interactions.

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

The cell as the basis of life.

Cell theory. Cell size. The prokaryotic and eukaryotic, animal and plant cell. Viruses.

The cell membrane: structure and functions - transport through the membrane.

Cell structures and their specific functions.

Cell cycle and cell reproduction: mitosis and meiosis - chromosomes and chromosomal maps.

Bioenergetics.

The energy currency of cells: ATP.

Oxidation-reduction reactions in living beings.

Energy processes: photosynthesis, glycolysis, aerobic respiration and fermentation.

Reproduction and Inheritance.

Life cycles. Sexual and asexual reproduction.

Mendelian genetics: Mendel's laws and their applications.

Classical genetics: chromosome theory of heredity – heredity models.

Molecular genetics: structure and duplication of DNA, the genetic code, the protein synthesis. The DNA of prokaryotes. The structure of the eukaryotic chromosome. Genes and regulation of gene expression.



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Human genetics: transmission of mono- and multi-factorial traits; autosomal hereditary diseases linked to the X chromosome.

Biotechnologies: recombinant DNA technology and its applications.

Heredity and environment.

Mutations. Natural and artificial selection. Evolutionary theories. The genetic basis of evolution.

Anatomy and Physiology of Animals and Man.

Animal tissues.

Anatomy and physiology of human systems and apparatus and their interactions.

Homeostasis.

Chemistry

The constitution of matter: the states of aggregation of matter; heterogeneous systems and homogeneous systems; compounds and elements.

Perfect gases laws.

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

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

The chemical bond: ionic bond, covalent and metallic bond. Bonding energy. Polarity of ties. Electronegativity. Intermolecular bonds.

Principles of inorganic chemistry: nomenclature and main properties of inorganic compounds: oxides, hydroxides, acids, salts.

Chemical reactions and stoichiometry: atomic and molecular mass, Avogadro's number, concept of mole and its application, elementary stoichiometric calculations, balance of simple reactions, different types of chemical reaction.

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

Equilibria in aqueous solution.

Elements of chemical kinetics and catalysis.

Oxidation and reduction: oxidation number, concept of oxidant and reducing agent. Balancing of simple reactions.

Acids and bases: the concept of acid and base. Acidity, neutrality and basicity of aqueous solutions. The pH. Hydrolysis. Buffer solutions.

Principles of organic chemistry: bonds among carbon atoms, raw and structure formulas, isomerism. Aliphatic, alicyclic and aromatic hydrocarbons. Functional groups: alcohols, ethers, amines, aldehydes, ketones, carboxylic acids, esters, amides. Principles of classification.

Physics

Measurements: direct and indirect measurements, fundamental and derivative quantities, physical dimensions of the quantities, decimal metric system and of the CGS, Technical (or Practical) (ST) and International (SI) Measurement Systems, of the measurement units (names and relations among fundamental and derivative units), multiples and sub-multiples (names and values).

Kinematics: kinematic quantities, various motions, namely uniform and uniformly accelerated rectilinear motion; uniform circular motion; harmonic motion (for all motions: definition and relations among the relevant kinematic quantities).

Dynamics: vector and operations upon vectors. Forces, moments of forces with respect to a point. Moment of a pair of forces. Vector composition of forces. Definitions of mass and weight. Gravity acceleration. Density and specific weight. Law of universal gravitation, 1st, 2nd and 3rd principle of dynamics. Work, kinetic energy, potential energies. Principle of energy conservation. Impulse and momentum. Momentum conservation principle.

Fluids Mechanics: pressure, and its units of measurement (not only in the SI system). Principle of Archimedes. Pascal's principle. Stevino's law.

Thermology, thermodynamics: thermometry and calorimetry. Thermal capacity and specific heat. Heat propagation mode. State changes and latent heat. Perfect gases laws. First and second thermodynamics law.



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Electrostatics and electrodynamics: Coulomb's law. Field and electric potential. Dielectric constant. Capacitors. Serial and parallel capacitors. Direct current. Ohm's law. Kirchhoff's principles. Electrical resistance and resistivity. Electrical resistors in series and in parallel. Work, Power. Joule effect. Generators. Electromagnetic induction and alternating currents. Thermal, chemical and magnetic effects of electric currents.

Mathematics

Numerical sets and algebra: natural, integer, rational, real numbers. Sorting and comparison; magnitude and scientific notation. Operations and their properties. Proportions and percentages. Powers with integer (rational) exponent, and their properties. Radicals and their properties. Logarithms (in base 10 and in base e) and their properties. Elements of combinatorial calculus. Algebraic expressions, polynomials. Notable products, nth power of a binomial, decomposition into polynomial factors. Algebraic fractions. Linear and quadratic Algebraic equations and inequalities. Equation systems.

Functions: fundamentals on functions and their graphic representations (domain, codomain, study of the sign, continuity, maxima and minima, growth and decrease, etc.). Elementary functions: integer and fraction algebraic, exponential, logarithmic, goniometric functions. Compound functions and inverse functions. Goniometric equations and inequalities.

Geometry: polygons and their properties. Circumference and circle. Measurements of lengths, surfaces and volumes. Isometries, similarities and equivalences in the plane. Geometric places. Angle measurement in degrees and radians. Sine, cosine, tangent of an angle and their remarkable values. Goniometric formulas. Resolution of triangles. Cartesian reference system in the plane. Distance of two points and midpoint 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's theorems (first and second).

Probability and statistics: frequency distributions depending on the type of character and main graphic representations. Concept of random experiment and event. Probability and frequency.



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ANNEX 1

SELF STATEMENT CERTIFICATION (art. 47 d.P.R. 445/200)

I, the undersigned (name, surname) _____ fiscal
 code _____ born in (town, country) _____ on (dd,
 mm, yyyy) _____ residing in _____ Street
 _____ n. _____ Postal code _____

aware that anyone who makes false statements, produces false/fake documents or uses them, is punished under the Italian Penal Code and under the special laws in force related to this subject,

DECLARE UNDER MY OWN RESPONSIBILITY

That the following qualifications and certifications consist of n. ____ attachments and are certified true copies of the original ones in my possession.

Place and date

Signature _____

Attach an ID copy of the undersigned