



UNIVERSIDADE FEDERAL DE PERNAMBUCO
DIRETORIA DE RELAÇÕES INTERNACIONAIS



PROVA DE PROFICIÊNCIA EM

INGLÊS

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PERGUNTAS + GABARITO

✓ Correct

Marks: 5 / 5

Time Taken: 24 Seconds

Q: 1 This study utilized discourse-based instruction as an alternative method of instruction that emphasizes the teaching of mathematics by actively engaging students in mathematical discourse practices. A quasi-experimental study was employed to determine the effectiveness of mathematical discourse-based instruction in enhancing eleventh-grade students' conceptual and procedural understanding of probability and statistics. A researcher-constructed test instrument was used for data collection from the experimental and control groups. The data analysis performed using the Kruskal-Wallis test showed that the experimental group outperformed the control groups in terms of conceptual and procedural knowledge. Furthermore, the results suggest that discourse-based instruction when appropriately designed and implemented can increase students' understanding of mathematical topics.

Quais dos elementos abaixo não fazem parte do estudo em tela?

- ✓ Your Ans } **A. Entrevistas estruturadas**
- B. Grupos de Controle
- C. Compreensão Conceitual
- D. Compreensão Procedural

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 329

✓ Correct

Marks: 5 / 5

Time Taken: 20 Seconds

Q: 2 Over the past several decades, a pernicious myth has taken hold. This is the myth that history and philosophy of science are intrinsically opposed to one another: as if the two fields have timeless essences that tug against one another in equally timeless tension. The myth has a certain fascination for purists on both sides, and even speaks an important truth about the present configuration of disciplinary standards. But it is a myth nonetheless, and one that stands in the way of a more productive analysis of the value of history of science for philosophy of science. My goal in this essay is to dismantle this myth, and in so doing, to indicate a more fruitful way of analyzing the value of history of science for philosophy of science. Crucial to my argument is a particular conceptual shift. Too often, discussions of the 'HPS problem' have concentrated on global integration: on articulating a single model that captures how history and philosophy of science ought to interact with one another. But this project encounters many of the difficulties that confront the project of articulating a singular scientific method.

Qual o objetivo proposto pelo ensaio de acordo com o trecho lido?

- A. Quebrar com o mito de que as respostas da filosofia complementam as lacunas da ciência da história.
- B. Ratificar que tanto a história e a filosofia das ciências são disciplinas com o mesmo objeto de estudo.
- C. Contrariar o mito dos puristas em separar a filosofia e história como disciplinas não relacionadas com as demais ciências.
- ✓ Your Ans } **D. Contradizer o mito da oposição entre história e filosofia da ciência como intrinsecamente opostos entre si.**

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 325

Q: 3 Observe o título do seguinte artigo:

Nutritional and metabolomics characterization of the coconut water at different nut developmental stages

A tradução que reflete o original em inglês é:

- ✓ Your Ans
- A.** Caracterização nutricional e metabolômica da água de coco em diferentes estágios de desenvolvimento do fruto.
 - B.** Características nutricionais e metabólicas da água de coco em estágios da amêndoa.
 - C.** Nutrientes e metabolomia caracterizados na água de coco em diferentes estágios
 - D.** Características nutri-metabólicas da água de coco em distintos níveis de crescimento.

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 339

✓ Correct

Marks: 5 / 5

Time Taken: 14 Seconds

Q: 4 The period of Romanisation of Hispania runs from 218 BCE (Romans landing in Ampurias) to the beginning of the 5th century (entry of the Visigoths into the Iberian Peninsula, replacing the authority of Rome). Throughout this extensive period spanning seven centuries, the territory would be marked with the unmistakable imprint of Roman culture and customs. The imperial era of Roman civilisation witnessed not only the greatest upsurge in the construction of the theatre, but also the export of its model from Rome to the provinces. This work studies the acoustic environment of two Roman theatres of Hispania (present-day Spain and Portugal) located on the east coast of the peninsula that were reference cities of the Cartaginensis province: the theatre of Carthago Nova and the theatre of Saguntum. The acoustic characterisation encompasses a parametric and spatial description of their sound fields and a comparison of their acoustic atmospheres justified by their different states of recovery-rehabilitation. Both theatres especially that of Saguntum, present long reverberation times compared to other theatres of Roman Hispania. As a consequence, their energy descriptors show noticeable differences in the two theatres, whereby the most unfavourable perceptual conditions are presented in the Saguntum theatre with its completely rebuilt stage front. The parametric results are corroborated through tridimensional energy plots carried out by IRIS diagrams imported into 3D geometrical models of the performance spaces, and therefore further indicate the importance of certain zones in the acoustics of the theatres.

Sobre a área de conhecimento a que pertence o texto acima, é correto afirmar que se trata de um estudo sobre:

- A.** História Antiga
- ✓ Your Ans **B.** Acústica
- C.** Estudos teatrais
- D.** Geografia

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 330

Q: 5 Diachronic studies of academic discourse have attracted scholarly attention since the 1990s, as “[l]ooking at language change allows us to see the dynamics [...] and the contingency of academic writing conventions” (Hyland & Jiang, 2019a, p. 22). Pioneering work in this field includes, for example, Bazerman (1988), Valle (1999), and Atkinson (1999) (see Hyland and Jiang (2019a, pp. 23–27) for an excellent overview of early studies). The most recent and representative diachronic investigations into academic discourse are probably the series of studies by Hyland and Jiang. Using corpora compiled of research articles in Applied Linguistics, Sociology, Electrical Engineering, and Biology, they investigated how engagement (Hyland & Jiang, 2016a), stance (Hyland & Jiang, 2016b, 2018a), (in)formality (Hyland & Jiang, 2017), lexical bundles (Hyland & Jiang, 2018b), citations (Hyland & Jiang, 2018c, 2019b), and metadiscourse (Hyland & Jiang, 2018d, 2020) have changed in academic discourse and how such changes have occurred across these disciplines. Briefly, their studies suggest that the use of stance and engagement expressions have decreased over time (especially in soft disciplines) while citations have significantly increased. They also observe substantial disciplinary variation in such diachronic changes. They find, for example, that writers of hard disciplines now use a larger proportion of nominal bundles whereas those of soft disciplines use slightly more research- and text-oriented ones. Despite the significant decrease in the use of interactional metadiscourse in academic discourse in general, hard disciplines have witnessed a substantial increase in interactional features. Overall, their studies have offered important insights into the historical development of academic discourse across disciplines and showcased the value of diachronic studies of academic discourse in general.

De acordo com o trecho acima, os estudos diacrônicos do discurso acadêmico atraíram a atenção de estudiosos pela seguinte razão:

- Correct Ans
- A.** Por observar as mudanças linguísticas que nos permitem verificar a dinâmica e a contigência das convenções da escrita acadêmica.
 - B.** Pela influência do metadiscurso interacional nas técnicas de escrita acadêmica.
 - C.** Pelas interações entre a Linguística, Sociologia e Biologia.
 - D.** Pelas contribuições de Bazerman, Valle e Atkinson que revolucionaram o entendimento do processo de escrita acadêmica.

Section: Junho_Proficiência_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 326

? UnAnswered

Marks: 0 / 5

Time Taken: 0 Second

Q: 6 The immobilization of biocatalysts or other bioactive components often means their transformation from a soluble to an insoluble state by attaching them to a solid support material. Various types of fibrous textiles from both natural and synthetic sources have been studied as suitable support material for biocatalysts immobilization. Strength, inexpensiveness, high surface area, high porosity, pore size, availability in various forms, and simple preparation/functionalization techniques have made textiles a primary choice for various applications. This led to the concept of a new domain called-biocatalysts immobilization on textiles. By addressing the growing advancement in biocatalysts immobilization on textile, this study provides the first detailed overview on this topic based on the terms of preparation, progress, and application in wastewater treatment. The fundamental reason behind the necessity of biocatalysts immobilized textile as well as the potential preparation methods has been identified and discussed. The overall progress and performances of biocatalysts immobilized textile have been scrutinized and summarized based on the form of textile, catalytic activity, and various influencing factors. This review also highlighted the potential challenges and future considerations that can enhance the pervasive use of such immobilized biocatalysts in various sustainable and green chemistry applications.

Dentre as justificativas para uso de tecidos em várias aplicações, o texto não menciona:

- A.** Alta porosidade
- B.** Preço acessível
- C.** Disponibilidade em várias formas
- Correct Ans **D.** Capacidade térmica

Section: Junho_Proficiência_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 327

Q: 7

A imagem acima reflete as informações do seguinte texto:

- A.** In 144 ST-segment elevation myocardial infarction (STEMI) and 121 non-ST-segment elevation acute coronary syndrome (NSTEMI-ACS) patients, symptom-to-admission times were significantly prolonged (COVID-STEMI vs. BCIS: median 339.0 min vs. 173.0 min; $p < 0.001$; COVID NSTEMI-ACS vs. MINAP: 417.0 min vs. 295.0 min; $p = 0.012$). Mortality in COVID-ACS patients was significantly higher than BCIS/MINAP control subjects in both subgroups (COVID-STEMI: 22.9% vs. 5.7%; $p < 0.001$; COVID NSTEMI-ACS: 6.6% vs. 1.2%; $p < 0.001$), which remained following multivariate propensity analysis adjusting for comorbidities (STEMI subgroup odds ratio: 3.33 [95% confidence interval: 2.04 to 5.42]). Cardiogenic shock occurred in 20.1% of COVID-STEMI patients versus 8.7% of BCIS patients ($p < 0.001$).
- B.** This cohort consisted of 126 patients (18%) with cardiovascular events and 574 patients without cardiovascular events. Patients with cardiovascular events had a much higher mortality rate than those without cardiovascular events (45.2% v 8.7%, $p < 0.001$). There was no difference between African American and white patients regarding mortality (43.9% v 46.3%, $p = 1$) and length of stay for survivors (11 days v 9.5 days, $p = 0.301$). Multiple logistics regression analysis suggested that male, race, lower SaO₂/FIO₂, higher serum potassium, lower serum albumin, and number of cardiovascular comorbidities were highly associated with the occurrence of cardiovascular events in COVID-19 patients.
- C.** COVID-19 is highly variable in its clinical presentation, ranging from asymptomatic infection to severe organ damage and death. We characterized the time-dependent progression of the disease in 139 COVID-19 inpatients by measuring 86 accredited diagnostic parameters, such as blood cell counts and enzyme activities, as well as untargeted plasma proteomes at 687 sampling points. We report an initial spike in a systemic inflammatory response, which is gradually alleviated and followed by a protein signature indicative of tissue repair, metabolic reconstitution, and immunomodulation. We identify prognostic marker signatures for devising risk-adapted treatment strategies and use machine learning to classify therapeutic needs. We show that the machine learning models based on the proteome are transferable to an independent cohort. Our study presents a map linking routinely used clinical diagnostic parameters to plasma proteomes and their dynamics in an infectious disease.
- D.** From March 1, 2020 to July 31, 2020, data from 55 international centers were entered into a prospective, COVID-ACS Registry. Patients were COVID-19 positive (or had a high index of clinical suspicion) and underwent invasive coronary angiography for suspected ACS. Outcomes were in-hospital major cardiovascular events (all-cause mortality, re-myocardial infarction, heart failure, stroke, unplanned revascularization, or stent thrombosis). Results were compared with national pre-COVID-19 databases (MINAP [Myocardial Ischaemia National Audit Project] 2019 and BCIS [British Cardiovascular Intervention Society] 2018 to 2019).

✓ Correct Ans

? UnAnswered

Marks: 0 / 5

Time Taken: 0 Second

Q: 8

This article analyses conceptualisations of 'sustainability' within Australia's subsidised performing arts sector, demonstrating how keyword analysis sheds light on questions of cultural policy. It reports on a study of 564 Annual Reports produced between 2010 and 2018 by Australia's federal arts funding body, as well as leading subsidised performing arts companies. Identifying three main relationships between sustainability and the arts (sustainability through, in, and of the arts), I argue that Australia's performing arts sector is chiefly concerned with 'sustainability of the arts.' This concern focuses on the financial and organisational viability of arts companies, the ability of artists to make a living from their art, and the ongoing relevance and vibrancy of individual art forms. However, scant attention is paid to the environment, except as required under government legislation and in select performing arts companies. I discuss these findings in relation to Australia's recent history of arts funding and the argument that 'culture' should be recognised as a 'fourth bottom line' of sustainability.

Os temas abaixo são explorados no artigo em tela, exceto:

- A.** Sustentabilidade
- B.** Artes
- C.** A cultura australiana

✓ Correct Ans

D. A política australiana

Q: 9 Background

The integration of evidence-based practice in nursing curricula is crucial to educate nursing students to incorporate evidence-based practice in their future clinical practice. Therefore, to promote its integration within nursing education, it is important to deeply understand how prepared academic institutions are for teaching about and supporting evidence-based practice integration.

Design

Cross-sectional study.

Methods

Nursing educators and undergraduate nursing students from nine Portuguese nursing schools were invited to participate in this study through an electronic survey comprising socio-demographic questions and the scales.

Qual alternativa abaixo poderia ser uma continuidade do texto acima, levando-se em consideração a coesão e coerência?

- A. To describe aesthetic expressions understandings of caring in nursing among Japanese nursing students as learned and communicated through their aesthetic expressions.
- Correct Ans** B. Sixty-eight nursing educators replied to the survey. Most were female, have PhD and have evidence-based practice training.
- C. Caring is the heart of nursing. However, not many understand the significance of caring in nursing from the perspectives of undergraduate nursing students, especially in Japan.
- D. This study described the understanding of caring in nursing among undergraduate Japanese nursing students during their second year of study.

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 335

? UnAnswered

Marks: 0 / 5

Time Taken: 0 Second

Q: 10

Databases of soil pH values today not only guide the decisions of land managers but also the biogeochemical models and experimental designs of microbiologists and soil ecologists. Soil acidity underpins fundamental properties and functions in the soil, such as the solubilities of exchangeable ions and nutrients, or bacterial use of gradients of internal and external acidity to generate ATP and turn flagellar motors. Therefore, it is perhaps unsurprising that soil pH has emerged as the strongest predictor of soil bacterial community composition. However, the measurement of these particular values today does not address whether soil pH accurately represents the in situ acidity of soil microhabitats where microorganisms survive and reproduce. This study analyzes and compares soils of a large-scale natural soil pH gradient and a long-term experimental soil pH gradient for the purposes of testing new methods of measuring and interpreting soil acidity when applied to soil ecology. We extracted and prepared soil solutions using laboratory simulation of levels of carbon dioxide and soil moisture more typical of soil conditions while also miniaturizing traditional methods using a centrifuge for extractions.

Sobre o excerto acima, como se deu a extração e preparação de soluções para o solo?

- Correct Ans** A. Usando simulação de laboratório de níveis de dióxido de carbono e umidade do solo mais típicos das condições do solo
- B. Através de valores particulares observando se o pH do solo representa com precisão a acidez in situ de microhabitats onde os microorganismos sobrevivem e se reproduzem.
- C. Através do gradiente natural de pH do solo em grande escala e um gradiente de pH experimental de longo prazo do solo
- D. Por meio dos bancos de dados de valores de pH do solo e também os modelos biogeoquímicos experimentais.

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 331

Q: 11 In September 2006, members of the Sex, Gender and Pain Special Interest Group of the International Association for the Study of Pain met to discuss the following: (1) what is known about sex and gender differences in pain and analgesia; (2) what are the “best practice” guidelines for pain research with respect to sex and gender; and (3) what are the crucial questions to address in the near future? The resulting consensus presented herein includes input from basic science, clinical and psychosocial pain researchers, as well as from recognized experts in sexual differentiation and reproductive endocrinology. We intend this document to serve as a utilitarian and thought-provoking guide for future research on sex and gender differences in pain and analgesia, both for those currently working in this field as well as those still wondering, “Do I really need to study females?”

Qual a área de estudo predominante do texto acima?

- A. Antropologia
- B. Ciências da Saúde**
- C. Ciências Jurídicas
- D. Filosofia

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 340

Q: 12 The main aspects of Green Analytical Chemistry (GAC) are revisited, enlightening the possibilities offered for greening foodomics, in general, and food analysis, in particular. With the spotlight put into the remote and direct analysis as the best option to avoid deleterious environmental side effects of analytical methods, the image treatment has been suggested as the most sustainable strategy to be used. However, other analysis, which need a treatment of samples due to the low level of target analytes and/or the complexity of matrices, are also suitable to be greener and some of the aspects to be considered have been also reviewed in order to move from theoretical considerations to the development of green and sustainable methods to solve real problems in an accurate, sensitive, precise, fast and friendly way for both, operators and the environment.

Keywords

Green analytical chemistry
Direct analysis
Green extraction techniques
Greenmetrics

A área de estudo que melhor se identifica com o excerto acima é:

- A. Química quântica
- B. Engenharia de alimentos**
- C. Oceanografia
- D. Ecologia

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 328

Q: 13

This study specifically addresses the needs for English-medium textbook reading comprehension of Chinese computer science undergraduates who have already mastered about 3,300 general English word families prescribed by the Ministry of Education before entering university. Thirty textbooks on various subjects of computer science were chosen to build a Computer Science Textbook Corpus (CSTC) containing 7.51 million running words. Based on criteria of range, frequency, and dispersion, 356 word families outside the 3,300 items within students' knowledge were extracted to form the Computer Science Vocabulary List (CSVL). The CSVL accounted for 4.79% of the tokens in the CSTC but only 0.39% in a fiction corpus. The CSVL, combined with students' lexical repertoire acquired from secondary education, provided 95.16% coverage of the corpus, reaching the minimum requirement for reading comprehension suggested by Laufer (1989). By analyzing the overlapping proportion of related word lists pairwise, this study further established that the development of specialized word lists achieved the best efficiency if targeting at a homogenous audience.

O melhor título para o excerto acima é:

- A. Computer Science and reading impact on chinese students.
- B. A study on the difficulties faced by Chinese students learning computer science and English.
- C. Textbooks used to train Chinese students on computer science trends.
- Correct Ans D. How large a vocabulary do Chinese computer science undergraduates need to read English-medium specialist textbooks?

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 334

? UnAnswered

Marks: 0 / 5

Time Taken: 0 Second

Q: 14

Biomedical waste (BMW) differs from general municipal waste as it poses various health hazards. BMW management rules 2016 and the amendment rules 2018 are the latest guidelines from the ministry of environment, forest & climate change to regulate the handling of BMW activities in the country. India is the second-most populous country after China and the second worst-hit nation by the coronavirus disease 2019 (COVID-19) after the United States of America (As of November 9, 2020). Due to the flawed biomedical waste management system and lack of resources, India faces severe consequences during the COVID-19.5 Untreated and improperly managed BMW is a potential source of infection. The diligent handling and management of BMW can prevent the occurrence of hospital-acquired infection and lower the rates of disease transmission. In addition, the untreated or the rudimentary handling of BMW creates a nuisance and decreases patient satisfaction.7 According to the data published by the central pollution control board (CPCB) in the year 2018, the total amount of BMW generated in India is 517 tonnes/day in the year 2016 and around 501 tonnes/day in the year 2015, out of which around 4–5% remains untreated.8 The annual report 2018/2019 released by CPCB showed the generation of 557 tonnes/day BMW in 2017, out of which 517/day was treated. The country has a total of 238,170 healthcare facilities, out of which 87,267 are bedded while the remaining 151,208 are non-bedded healthcare facilities (HCFs) generating BMW. There are 198 approved common biomedical waste disposal facilities (CBMWFs) in the country and 28 are under construction.

Segundo o excerto acima, é correto afirmar que:

- A. O excerto compara os cenários de COVID-19 em três países: Estados Unidos, China e Índia.
- Correct Ans B. O parágrafo discorre sobre as condições de lixo hospitalar na Índia.
- C. BMW se refere ao órgão que administra os resíduos biomédicos.
- D. A OMS aprovou 198 protocolos para descarte de resíduos hospitalares de hospitais de campanha.

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 322

Q: 15

The educative game market is on the rise. However, research about digital resources that go beyond the common core standards, like games on news education, is still lacking. We already know that there are several advantages of the use of games to teach journalism students. Less is known about the use of similar games to teach children.

This paper helps educators and game developers improving digital platforms to extend news literacy education among children, by providing a list of 11 best formats to include in the design of such platforms. This study is the culmination of wider research that, using a mixed methods approach, included a formative evaluation of games available in the market, the creation of a new prototype, its piloting and its testing among a group of 50 children.

O estudo acima é destinado para:

- A. Auxiliar os educadores para desenvolvimento de plataformas digitais.
- B. Auxiliar crianças com dificuldade de aprendizagem através de jogos e plataformas de leitura.
- C. Auxiliar educadores e desenvolvedores de jogos em melhorar plataforma digitais, criando novos tipos de letramentos.**
- D. Pesquisadores da área de letramento digital com ênfase em crianças.

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 323

? UnAnswered

Marks: 0 / 5

Time Taken: 0 Second

Q: 16

Quais dos textos a seguir refletem as informações da imagem acima?

- A. A method was validated for determining tebuconazole residues in coconut water, kernel and leaves using Liquid chromatography-Mass spectrometry/Mass spectrometry (LC-MS/MS) with electro spray ionization in positive ion mode. Samples were extracted with acetonitrile and subsequent clean-up was done using dispersive solid phase extraction. Recovery ranged between 70 and 114.39 % and the RSD was between 0.64 and 10.24 %. Root feeding studies with tebuconazole @ 5 and 10 mL/100 mL of water/tree revealed the presence of tebuconazole residues in coconut leaves.
- B. Principal component analysis (PCA) performed on data pre-processed by the Savitzky-Golay smoothing and gap-segment derivative, revealed data clusters discernible by the type and level of substituted sugars, enabling visual diagnosis of the similarity and anomalous features in the dataset.
- C. Attenuated Total Reflectance-Fourier Transform Infrared spectroscopy (ATR-FTIR), in combination with chemometrics, was explored as a rapid method of detecting sugar adulteration in coconut water. In a simulated experiment, coconut water was substituted with binary sugars, mixed sugars, and high fructose corn syrup and discriminated using the fingerprint infrared band region between 1200 and 950 cm^{-1} .
- D. This study aimed to elaborate a mixed beverage formulation with antioxidant and sensorial potential, using hibiscus and coconut water as the basis. An ideal hibiscus infusion formulation (23.1 g of hibiscus mass and an infusion time of 15 min) was determined using a Rotational Central Composite Design. Three blended beverage formulations were prepared, being HA 1 (50% hibiscus and 50% coconut water), HA 2 (70% hibiscus and 30% coconut water), and HA 3 (90% hibiscus and 10% coconut water). The blends were submitted to stability analysis, being stored under refrigeration (4 °C) for 35 days. Formulations were analyzed six times over the storage with an interval of 7 days in triplicate.**

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 338

Q: 17

Research topic studies have gained popularity in many disciplines, including library and information science (LIS). However, the lack of representation of library science and librarianship in literature indicates a research bias due to the preset methodology parameters, which are commonly based on impact factor scores in the Journal Citation Report of Thomson Reuters. In research, the authors utilize an improved selection criterion of journals and author-supplied keyword clustering and analysis technique to study the most recent ten years of LIS journal publications. This article presents a clear picture of popular research topics in seminal literature to help practicing librarians and library science scholars gain a better understanding and considerable prediction on the research trends in the LIS field.

O termo "research bias" no excerto acima indica:

- A. Neutralidade da pesquisa
- B. Tendências da pesquisa
- Correct Ans** C. Preconceito com a pesquisa
- D. Viés da pesquisa

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 332

? UnAnswered

Marks: 0 / 5

Time Taken: 0 Second

Q: 18

Astronomy has an advantage over other sciences in the existence of a very large and active amateur scientist community with which to leverage interest, outreach, and research efforts. In this chapter we provide a broad overview of amateur astronomy, how it can connect the public to professional astronomy through direct involvement with the public, and how it is sustained through the creation of social groups and networks, both physical and online. This chapter reviews the limited literature on the topic, as well as draws on interviews and stories from 53 people from across the spectrum of amateur astronomy involvement. We discuss historic demographics heavily skewed towards particular ethnic, gender, and socioeconomic categories, as well as new initiatives to increase diversity among the range of amateur astronomers. Through ongoing interest, support, and innovation, there is much promise in the capacity for three broad types of amateur astronomers - the independent explorers, outreach agents and researchers - to make a powerful contribution to Public Outreach. This may even have been amplified by the necessary diversification of approaches forced upon independent amateurs, societies, and organizations in the face of the recent world-wide pandemic. Lastly, we share thoughts for the future of amateur astronomy and share profiles of four relatively young amateur astronomers who exemplify crossing the boundaries of amateur astronomy from independent explorers, outreach agents, and researchers.

Com base nas informações do excerto acima, o texto reflete um capítulo da seguinte obra:

- Correct Ans** A. Space Science and Public Engagement
- B. Advanced Astronomy explained
- C. Astronomy, Astrology and the Universe
- D. Mars: Space Missions

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 336

Q: 19 Within the United States (US) today, there remains a significant amount of discrimination and bias toward gay men (e.g., see Federal Bureau of Investigation, 2018). Gay men have faced and often continue to face discrimination in housing, employment, and interpersonal interactions (Herek, 2009a). Experiencing discrimination has been shown to have significant effects on individuals' health, well-being, and social interactions (e.g., see Crocker and Major, 1989, Major and O'Brien, 2005, Meyer, 2015). As discrimination and stigmatization have a profound impact on individuals' general well-being, we wonder if discrimination can also affect their financial well-being.

De acordo com o exercto acima, é correto afirmar que:

- Correct Ans } **A. A discriminação e estigma contra gays pode eventualmente afetar a vida financeira destes**
- B.** Há uma pequena redução da discriminação contra os gays nos Estados Unidos.
- C.** Segundo Meyer, discriminação e estigma são conceitos distintos, embora próximos.
- D.** O FBI (Federal Bureau of Investigation) vem desde 2018 investigando as questões relativas à discriminação e estigma na sociedade americana.

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 341

Q: 20 Nuclear physics experiments significantly rely on data classification, i.e. the grouping of data into meaningful physics classes, to reconstruct nucleus–nucleus collision events and enable the exploration of the underlying physics. In studies that exploit the detection of charged particles, the classification problem is often that of identifying charge (Z) and mass (A) of detected ions. This process is usually indicated as particle identification. To this end, a number of detection systems capable to record information useful to the classification process have been developed in the last decades. A quite common strategy consists in the use of detector arrays based on stacks of detection layers through which the particle penetrates before is completely stopped. In similar arrays, if organized in a 2D correlation plot, data recorded by pairs of independent layers assemble into bi-dimensional non-overlapping clusters, each representing a certain (Z, A) class. To this extent, the problem of nuclear physics data classification is equivalent to the extraction of clusters in a bi-dimensional space. Numerous algorithms for Cluster Analysis (CA) or VectorQuantization (VQ) have been proposed in the literature so far, achieving a notable success in standard partitioning problems and being focused on obtaining clusters of nearly equal dispersion.

No excerto acima, a carga e massa de íons detectáveis são representados na seguinte notação:

- A.** CA
- Correct Ans } **B. Z e A, respectivamente**
- C.** VQ
- D.** 2D correlações

Section: Junho_Proficiencia_Ingles

Question Type: Multiple Choice (Radiobutton)

QID: 333

Score Card Report

Start Time: Jun 29 2021 9:07AM**End Time:** Jun 29 2021 9:12AM**Time Taken:** 4:7 Minutes**Total Questions:** 20**Correct:** 4**Partially Correct:** 0**Incorrect:** 0**Unanswered:** 16**Points:** 20/100**Negative Marks:** 0