



INSTITUTE OF PHYSICS, SRI LANKA

Vidya Mandiraya, 120/10, Wijerama Mawatha, Colombo 7, Sri Lanka.

(Incorporated by an Act of Parliament, Act No. 12 of 1986)

Web: <http://www.ipsl.lk>

(1) 16 වන ශ්‍රී ලංකා තාරකා විද්‍යා සහ තාරකා භෞතික විද්‍යා ඔලිම්පියාඩ් තරඟය (10, 11, 12, 13 ශ්‍රේණි වල සිසුන් සඳහා) - 2024 සහ

(2) 12 වන ශ්‍රී ලංකා කනිෂ්ඨ තාරකා විද්‍යා ඔලිම්පියාඩ් තරඟය (6, 7, 8, 9 ශ්‍රේණි වල සිසුන් සඳහා) 2024 - අයදුම්පත් කැඳවීම.

(ඉහත විභාග 2024.09.14 සෙනසුරාදා පෙ.ව. 11.00 ට පැවැත්වේ. අයදුම්පත් භාරගැනීමේ අවසන් දිනය 2024.09.09 වේ. විශ්වවිද්‍යාල 6ක විභාග මධ්‍යස්ථාන 6ක සිංහල, දෙමළ, ඉංග්‍රීසි භාෂා තුනෙන්ම තරඟය පැවැත් වේ.)

ශ්‍රී ලංකා භෞතික විද්‍යා ආයතනය මගින් කොළඹ විශ්වවිද්‍යාලයේ භෞතික විද්‍යා අංශය සහ ශ්‍රී ලංකා තාරකා විද්‍යා ඔලිම්පියාඩ් සංගමයේ සහයෝගය සහිතව පවත්වනු ලබන 16 වන ශ්‍රී ලංකා තාරකා විද්‍යා සහ තාරකා භෞතික විද්‍යා ඔලිම්පියාඩ් තරඟය (10, 11, 12, 13 ශ්‍රේණි වල සිසුන් සඳහා - මේ සඳහා අයදුම් කල හැක්කේ 2024.12.31 දින වනවිට වයස අවුරුදු 19 ට අඩු සිසුන්ට පමණි.) සහ 12 වන ශ්‍රී ලංකා කනිෂ්ඨ තාරකා ඔලිම්පියාඩ් තරඟය (6, 7, 8, 9 ශ්‍රේණි වල සිසුන් සඳහා) 2024.11.04 සෙනසුරාදා දින පැවැත්වේ. පාසල් සිසුන් සඳහා පවත්වනු ලබන මෙම තරඟ සඳහා සිසුන්ට සිංහල, දෙමළ, ඉංග්‍රීසි යන ඕනෑම මාධ්‍යයකින් පෙනී සිටිය හැකිය. කොළඹ, රුහුණ, රජරට(මිහින්තලේ), යාපනය යන විශ්වවිද්‍යාලයන්හි සහ මහනුවර(පොල්ගොල්ල), මඩකලපුව යන විවෘත විශ්වවිද්‍යාල මධ්‍යස්ථානයන්හි දී සිසුන්ට මෙම ඔලිම්පියාඩ් තරඟ දෙකටම සහභාගී වීමට ඉඩ සලස්වා ඇත. සිසුන්ගේ පහසුව තකා ඉහත ඔලිම්පියාඩ් තරඟ දෙකම පෙ.ව. 11.00 ට එකම වේලාවේදී පැවැත්වීමට කටයුතු යොදා ඇත. (SLAAO පෙ.ව. 11.00 - ප.ව. 1.00 දක්වා කාලය තුල සහ SLJAO පෙ.ව. 11.00 - ප.ව. 12.30 දක්වා කාලය තුල පැවැත්වේ.) ජාතික මට්ටමෙන් ජයග්‍රහණය කරනු ලබන සිසුන්ට රන්, රිදී, ලෝකඩ පදක්කම් සහ කුසලතා සහතික ඉදිරියේදී කොළඹ විශ්වවිද්‍යාලයේ විද්‍යා පීඨ පරිශ්‍රයේ දී උත්සවාකාරයෙන් පිරිනමනු ලැබේ. මීට අමතරව ඉහත ඔලිම්පියාඩ් තරඟ දෙකෙහිදී රන්, රිදී සහ ලෝකඩ පදක්කම් ලබාගත් සිසුන් හට කැමති නම් 2025 දී පැවැත්වෙන අන්තර්ජාතික තාරකා විද්‍යා ඔලිම්පියාඩ් තරඟ වලට (රටේ පවතින තත්ත්වය මත සහ මූල්‍යමය තත්ත්වයන් මත සහභාගී වීම තීරණය වේ) ජාතික කණ්ඩායම/කණ්ඩායම් නියෝජනය කරමින් සහභාගී වීමේ අවස්ථාව උදාවනු ඇත. මේ සඳහා අප විසින් අවශ්‍ය වුවහොත් පවත්වනු ලබන දෙවන විභාගයකින්ද හොඳම ලකුණු ලබාගත් සිසුන් උපරිම පහක් පමණ බැගින් තෝරා ගනු ලැබේ. (මෙම දෙවන විභාගයට සහභාගී වීම අනිවාර්ය නොවන අතර පදක්කම් ලාභීන්ට කැමතිනම් පමණක් පෙනී සිටිය හැකිය.) ඉහත ජාතික තරඟ සඳහා ඉදිරිපත් වීමට කැමති සිසුන්ට මාර්ගගත (on-line) අයදුම්පත්‍රය සහ පසුගිය ප්‍රශ්න පත්‍ර වලින් කිහිපයක් www.ipsl.lk යන වෙබ් අඩවියෙන් ලබා ගත හැක. වැඩි විස්තර අවශ්‍ය නම්දුනවිල් 12.00 - 1.00 අතර හෝ රාත්‍රී 9.00 - 10.00 අතර කාල පරාසය තුල පමණක් දු.ක. අංක: 0714800800 මගින් මහාචාර්ය වන්දන ජයරත්න මහතා අමතා ලබා ගත හැකිය.

අයදුම්පත් භාර ගන්නා අවසාන දිනය 2024.09.09 වේ. විභාග අංකය සහිත විභාගයට ඇතුළත් කිරීමේ පත්‍රය, මාර්ගගත අයදුම්පත්‍රය (Google Form) එවා සති දෙකක් තුළදී එහි සඳහන් කරන ලද විද්‍යුත් තැපැල් ලිපිනයට හෝ WhatsApp පණිවිඩයක් මගින් දුරකතන අංකයට හෝ එවනු ලැබේ. විභාග අංකය සහිත අයදුම් පත්‍රය 2024.09.10 දිනට පෙර නොලැබුණහොත් ශ්‍රී ලංකා තාරකා විද්‍යා ලිම්පියාඩ් සංගමයේ කාර්යාලයෙන් (0777309385) ඒ පිලිබඳව විමසන්න.

මහාචාර්ය වන්දන ජයරත්න
ජාතික සම්බන්ධීකාරක-SLOAA
2024.08.22

The Google link for the application form for the 16th Sri Lankan Astronomy and Astrophysics Olympiad competition (SLAAO)-2024 for Grades 10-13 students, And for the 12th Sri Lankan Junior Astronomy Olympiad Competition (SLJAO) – 2024 for Grades 6-9 students:

<http://35.187.224.194/astronomy-olympiad/>



Applications are called for

(1) THE 16th SRI LANKAN ASTRONOMY AND ASTROPHYSICS OLYMPIAD COMPETITION (SLAAO) – 2024 for grades 10-13 students and

(2) THE 12th SRILANKAN JUNIOR ASTRONOMY OLYMPIAD COMPETITION (SLJAO)–2024 for grades 6-9 students.

(The above examinations will be held on 2024.09.14 Saturday at 11.00 a.m. The closing date for applications is 2024.09.09)

There are 6 examination centers in 6 universities. Question papers are available in three languages: Sinhala, Tamil & English).

The 16th Sri Lankan Astronomy and Astrophysics Olympiad (For students in grades 10, 11, 12, and 13. Only the students under the age of 19 by 2024.12.31 can apply for this) and the 11th Sri Lankan Junior Astronomy Olympiad (for students in grades 6, 7, 8, 9) are organized by the Institute of Physics, Sri Lanka in collaboration with the Department of Physics, University of Colombo in association with Sri Lanka Astronomy Olympiad Association. The competitions will be held on Saturday 14th September 2024. The school children can participate in these competitions in any of the mediums Sinhala, Tamil or English. Students will be able to participate in both Olympiads at the Universities of Colombo, Ruhuna, Rajarata (Mihintale), Jaffna and the Open University Centers at Kandy (Polgolla) and Batticaloa. For the convenience of the students, arrangements have been made to hold competitions of SLAAO from 11.00 am - 1.00 pm and SLJAO from 11.00 am - 12.30 pm.

Gold, Silver, Bronze medals and Certificates of Merit will be presented to the winning students at the national level in a ceremony to be held at the Faculty of Science premises of the University of Colombo. In addition, students who have won Gold, Silver and Bronze medals in the above two Olympiads may have the opportunity to represent the national team/teams in the International Astronomy Olympiads due in 2024 (participation will be decided based on the situation of the country and availability of funds). For this purpose, a maximum of five students with the highest marks obtained at a second examination conducted for medal winners will be selected. (This second examination is optional for the medal winners.)

Students who wish to participate in the above national competitions can obtain the online application form and some of the past question papers from the website www.ipsl.lk. For more information, contact Prof. Chandana Jayaratne on 0714800800 during 12.00 - 1.00 p.m. or 9.00 - 10.00 p.m. only.

The closing date for applications is 2024.09.09. The admission form with the examination number will be sent to the e-mail address mentioned in the online application form (Google Form) or to the phone number via WhatsApp within two weeks after the submission of the application. If the admission form with the examination number is not received before 10th September 2024, please inquire about it from the office of the Sri Lanka Astronomical Olympiads Association (0777309385).

Prof. K. P. S. Chandana Jayaratne
National Coordinator-SLOAA & SLJAO (Date: 2024.08.22)

The Google link for the application form for the 16th Sri Lankan Astronomy and Astrophysics Olympiad competition (SLAAO)-2024 for Grades 10-13 students, And for the 12th Sri Lankan Junior Astronomy Olympiad Competition (SLJAO) – 2024 for Grades 6-9 students:

<http://35.187.224.194/astronomy-olympiad/>



விண்ணப்பம் கோரல்

(1) 10-13 வகுப்பு மாணவர்களுக்கான 15வது இலங்கை வானியல் மற்றும் வானியல் ஒலிம்பியாட் போட்டி (SLAAO) - 2024 மற்றும்

(2) 6-9 வகுப்பு மாணவர்களுக்கான 11வது இலங்கை வானியல் ஒலிம்பியாட் போட்டி-கனிஷ்ட பிரிவு (SLJAO)-2024

(மேற்படி தேர்வுகள் 2024.09.14 சனிக்கிழமை காலை 11.00 மணிக்கு 6 பல்கலைக்கழகங்களிலுள்ள 6 தேர்வு மையங்களில் நடைபெறும். வினாத்தாள்கள் சிங்களம், தமிழ் மற்றும் ஆங்கிலம் ஆகிய மூன்று மொழிகளிலும் கிடைக்கப்பெறும். விண்ணப்பங்கள் கிடைக்கப் பெற வேண்டிய இறுதி திகதி 2024.09.09)

15வது இலங்கை வானியல் மற்றும் வானியற்பியல் ஒலிம்பியாட் போட்டி (தரம் 10, 11, 12, 13 மாணவர்களுக்கானது - 2024.12.31 அன்று, 19 வயதிற்குட்பட்ட மாணவர்கள் மட்டும் விண்ணப்பிக்கலாம்) மற்றும் 10வது இலங்கை கனிஷ்ட பிரிவு வானியல் ஒலிம்பியாட் போட்டியானது (தரம் 6, 7, 8, 9 மாணவர்களுக்கு), கொழும்பு பல்கலைக்கழகத்தின் இயற்பியல் துறை மற்றும் இலங்கை வானியல் ஒலிம்பியாட் நிறுவனத்துடன் இணைந்து, இலங்கை இயற்பியல் நிறுவனத்தினால் ஏற்பாடு செய்யப்பட்டுள்ளது. மேற்படி தேர்வானது 2024.09.14 சனிக்கிழமை அன்று நடைபெறும். குறிப்பிட்ட வயதிற்குட்பட்ட பாடசாலை மாணவர்கள் சிங்களம், தமிழ் மற்றும் ஆங்கிலம் ஆகிய எந்த மொழியிலும் இதில் பங்கேற்கலாம். இப் போட்டிகள் கொழும்பு, களனி, உருகுணை, ரஜரட்ட (மிவறிந்தலை), யாழ்ப்பாணம் மற்றும் கண்டி (பொல்கொல்ல) திறந்த பல்கலைக்கழகம் மற்றும் மட்டக்களப்பு திறந்த பல்கலைக்கழகம் ஆகிய மையங்களில் மாணவர்களின் வசதியைக் கருதி, SLAAO காலை 11.00 மணி முதல் மதியம் 1.00 மணி வரையிலும் மற்றும் SLJAO காலை 11.00 மணி முதல் மதியம் 12.30 வரையிலும் போட்டிகள் நடத்த ஏற்பாடுகள் செய்யப்பட்டுள்ளன.

தேசிய அளவில் வெற்றி பெறும் மாணவ, மாணவியருக்கு தங்கம், வெள்ளி, வெண்கலப் பதக்கங்கள் மற்றும் சான்றிதழ்கள் வழங்கும் விழா கொழும்பு பல்கலைக்கழகத்தின் விஞ்ஞான பீட வளாகத்தில் நடைபெறும். மேலும், மேற்கண்ட இரு போட்டிகளில் தங்கம், வெள்ளி, வெண்கலப் பதக்கங்களை வெல்லும் மாணவர்களுக்கு 2024 இல் நடைபெறவிருக்கும் சர்வதேச வானியல் ஒலிம்பியாட்களில் தேசிய அணி/அணிகளைப் பிரதிநிதித்துவப்படுத்துவதற்கான வாய்ப்பு வழங்கப்படும். (பங்கேற்பது நாட்டின் தற்போதைய சூழ்நிலையின் அடிப்படையில் முடிவு செய்யப்படும்). இதற்காக, பதக்கம் வென்ற மாணவர்களுக்கிடையில் நடாத்தப்படும் இரண்டாவது தேர்வில் அதிகூடிய மதிப்பெண்கள் பெறும் அதிகப்பட்சமாக ஐந்து மாணவர்கள் தேர்ந்தெடுக்கப்படுவர்.(இரண்டாவது தேர்வில் பங்கேற்பது பதக்கம் வென்றவர்களது விருப்பத்துக்குட்பட்டது)

மேற்கண்ட தேசியப் போட்டிகளில் பங்கேற்க விரும்பும் மாணவர்கள் ஆன்லைன் (online) விண்ணப்பப் படிவத்தையும் சில கடந்த கால வினாத்தாள்களையும் www.ipsl.lk என்ற இணையதளத்திலிருந்து பெற்றுக் கொள்ளலாம். மேலதிக தகவல்களுக்கு பேராசிரியர். சந்தன ஜயரத்ன உடன், 0714800800 என்ற தொலைபேசி இலக்கத்தில் மதியம் 12.00 - 1.00 மணிக்குள் அல்லது காலை 9.00 -10.00 மணிக்குள் மட்டும் தொடர்பு கொள்ளவும்.

விண்ணப்பம் கிடைக்கப்பெற வேண்டிய இறுதித் திகதி 2024.09.09. பரீட்சை எண்ணுடன் கூடிய அனுமதிப் படிவமானது, ஆன்லைன் (online) விண்ணப்பப் படிவத்தில் (கூகுள் படிவம்) மின்னஞ்சல்(e-mail) முகவரிக்கு அல்லது வாட்ஸ்அப் (WhatsApp) வழியாக தொலைபேசி எண்ணிற்கு விண்ணப்பம் சமர்ப்பிக்கப்பட்ட இரண்டு வாரங்களுக்குள் அனுப்பப்படும். பரீட்சை எண்ணுடன் கூடிய அனுமதிப் படிவம், 2024.09.10க்கு முன் கிடைக்கப்பெறவில்லை என்றால், தயவுசெய்து இலங்கை வானியல் ஒலிம்பியாட் சங்கத்தின் அலுவலகத்துடன் (0777309385) தொடர்பு கொள்ளவும்.

பேராசிரியர் K. P. S. சந்தன ஜயரத்ன

தேசிய ஒருங்கிணைப்பாளர் - SLOAA & SLJAO (திகதி : 2024.08.22)

The Google link for the application form for the 16th Sri Lankan Astronomy and Astrophysics Olympiad competition (SLAAO)-2024 for Grades 10-13 students, And for the 12th Sri Lankan Junior Astronomy Olympiad Competition (SLJAO) – 2024 for Grades 6-9 students:

<http://35.187.224.194/astronomy-olympiad/>



Syllabi

A. The examination for the Sri Lankan Junior Astronomy Olympiad-SLJAO is mainly based on the astronomy course material in school textbooks and school curricula from grade 6 up to grade 9.

B. The examination for the Astronomy and Astrophysics Olympiad (SLAAO) will be based on the following syllabus.

1. Basic Astrophysics

Celestial Mechanics Kepler's Laws, Newton's Laws of Gravitation, Electromagnetic Theory & Quantum Physics Electromagnetic spectrum, Radiation Laws, Blackbody radiation, Doppler effect; Thermodynamics Thermodynamic equilibrium, Ideal gas, Energy transfer; Spectroscopy and Atomic Physics Absorption, Emission, Scattering, Spectra of Celestial objects, Line formations; Nuclear Physics Basic concepts

2. Coordinates and Times

Celestial Sphere Spherical trigonometry, Celestial coordinates, Equinox and Solstice, Circumpolar stars, Constellations and Zodiac; Concept of Time Solar time, Sidereal time, Julian date, Heliocentric Julian date, Time zone, Universal Time, Local Mean Time

3. Solar System

The Sun Solar structure, Solar surface activities, Solar rotation, Solar radiation and Solar constant, Solar neutrinos, Sun-Earth relations, Role of magnetic fields, Solar wind; The Solar System Earth-Moon System, Formation of the Solar System, Structure and components of the Solar System, Structure and orbits of the Solar System objects, Sidereal and Synodic periods

Phenomena Tides, Seasons, Eclipses, Aurorae, Meteor Showers

4. Stars

Stellar Properties Distance determination, Radiation, Luminosity and magnitude, Color indices and temperature, Determination of radii and masses, Stellar motion, Stellar variabilities; Stellar Interior and Atmospheres Stellar nucleosynthesis, Energy transportation, stellar atmospheres and spectra; Stellar Evolution Stellar formation, Hertzsprung-Russell diagram, Pre-Main Sequence, Main Sequence, Post-Main Sequence stars, End states of stars

5. Stellar Systems

Binary Star Systems Classification, Mass determination in binary star systems, Light and radial velocity curves of eclipsing binary systems, Doppler shifts in binary systems; Star Clusters Classification and Structure ; Milky Way Galaxy Structure and composition, Rotation, Interstellar medium; Normal and Active Galaxies Classification, Distance determination ; Accretion Processes Basic concepts

6. Cosmology

Elementary Cosmology Cluster of galaxies, Dark matter, Gravitational lenses, Hubble's Law, Big Bang, Cosmic Microwave Background Radiation

7. Instrumentation and Space Technologies

Multi-wavelength Astronomy; Observations in radio, microwave, infrared, visible, ultraviolet, X-ray, and gamma-ray wavelength bands, Earth's atmospheric effects; Instrumentation and Space Technologies Ground- and space-based telescopes and detectors (e.g. charge-coupled devices, photometers, spectrographs), Magnification, resolving and light-gathering powers of telescopes