SHANKAR IAS ACADEMY
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TNPSC Group II (OT) Main Examination 2018

Physics Key Terms

Nature of Universe

1. Cosmology
2. Astronomy
3. Big Bang Theory
4. Pulsating Theory
5. Galaxy
6. Milkyway Galaxy
7. Types of Galaxy
8. Celestial Body
9. Star
10. Supernova
11. Black hole
12. Neutron Star
13. Planet vs Dwarf Plant
14. Comet vs Asteroid
15. Meteor vs Meteoroid
16. Exo-planet
17. Oort Cloud
18. Kuiper Belt
19. Asteroid Belt
20. Terrestrial Planets
21. Gaseous planets
22. Jovian Planets
23. Akash Ganga
24. Ceres
25. Adromeda Galaxy
26. Super Moon, Blue Moon and Blood Moon
27. Equinox
28. Aphelion, Perihelion, Apogee, Perigee
29. White Dwarf
30. Chandra Sekhar Limit
31. Pole Star
32. Corona, Chromospheres, Photosphere
33. Aurora Borealis Vs Aurora Australis
34. Albedo
35. Escape Velocity
36. Nuclear Fusion
37. Universal Gravitational Constant and its Unit
38. Factors affecting G.
39. Biosphere
40. Red Planet
41. Morning/Evening Star
42. Icy Planets
43. Shooting Star
44. ISRO
45. Antrix Corporation
46. Shir Harikota Island
47. Mahendiragiri
48. Vikaram Sarabhai Space Center
49. SLV, ASLV, PSLV XL
50. GSLV
51. GSLV Mk III
52. GSLV Mk III D2 – GSAT - 29
53. LEO, MEO, GEO
54. Satellites and its types
55. Remote Sensing Satellite
56. Communication Satellite
57. Navigation Satellites
58. Sputnik
59. Aryabhatta
60. Bhaskara I
61. Rohini
62. Chanrdayan I
63. MOM/Mangalyan
64. Aditya I
65. IRNSS

66. South Asian Satellite
67. GAGAN
68. Gaganyaan/Manned Space Mission
69. Anitha Sat
70. Kalam Sat
71. Vainu Bappu Observatory
72. Hubble Telescope
73. Scramjet Engine
74. Liquid Propellant
75. K.Sivan
76. Stephen Hawking
77. GPS
78. Galileo
79. Beidu
80. Glonass
81. Mayilsamy Annadurai
82. Geocentric Theory
83. Heliocentric Theory

Physical Quantities, Standards and Units
Force, Motion and Energy

1. Fermi
2. Nano Meter
3. Atomic Clock
4. Metric System
5. SI Units
6. Astronomical Unit and Its value
7. Light Year and its Value
8. Parsec
9. Chandrasekhar Limit(CSL)
10. Mass vs Weight
11. Distance Vs Displacement
12. Speed vs Velocity
13. Dimensional Formula
14. Force and Its Types
15. Frictional Force
16. Friction reducing agents and increasing agents
17. Heat Vs Temperature
18. Hooke's Law
19. Young Modulus
20. Rigidity Modulus
21. Methods of Measuring Distance
22. Platinum – Iridium Cylinder
23. Smallest Practical Unit of Mass
24. Largest Practical Unit of Mass
25. Pseudo force
26. Centripetal Force Vs Centrifugal Force
27. Balanced Force Vs Unbalanced Force
28. Under what condition will a car skid on a leveled circular road?
29. Lami's theorem.
30. Rolling Friction
31. Conservative vs Non-Conservative Forces.
32. Force vs Torque
33. Sliding Vs Slipping
34. Radius of Gyration and Its Unit
35. Cohesive vs Adhesive force
36. Why mercury wets the glass?
37. Surface Tension and its application

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Electricity and Magnetism

1. Ohm's Law
2. Joule's Heating effect/Law and its application
3. Superconductivity and its application
4. Why nichrome is used as heating element
5. Eddy current and its application
6. Electromagnetic Induction
7. Transformer, types and losses
8. Transformer Ratio
9. Coulombs' inverse square law
10. Primary and Secondary Cell
11. AC/DC Generators
12. Daniel Cell
13. Lachlanche Cell
14. Acid Lead Accumulator
15. Permeability
16. Susceptibility
17. Magnetization
18. Types of Magnetic materials – Dia, Para and Ferro
19. Curies Temperature
20. Curie's Law
21. Ruthenium
22. Magnetic Materials

Sound and Light

1. Noise, its impacts and reducing methods
2. Echo and condition for echo occurrence
3. Application of Echo
4. Doppler Effect and its Application
5. SONAR and its application
6. Types of sound
7. Refractive Index
8. Vision and defects
9. Snell's Law
10. Power of Lens
11. Concave and Convex Mirror and their application
12. Real Image vs Virtual Image
13. Polarization and its uses/applications
14. Why stars twinkling
15. Why animals eye brighter
16. Dispersion
17. Total Internal Reflection and its application

Govt. policy
Organizations on Science and Technology
Role, achievement & impact of Science and technology
Energy - self sufficiency, Oil exploration
Computer Science and advancement

Govt. policy

1. UJJWALA yojana – Providing LPG connections to women
2. UJALA yojana – LED Distribution
3. Saubhagya Yojana / Pradhan Mantri Sahaj Bijli Har Ghar Yojana
4. Gobar-Dhan Scheme

5. Innovation in Science Pursuit for Inspired Research (INSPIRE)
6. VAJRA
7. IMPRINT
8. BharatNet Project
9. Digital India Pillars
10. TN e-Governance Policy 2017
11. TN Forest Policy 2018
12. TN Eco-Tourism Policy 2017
13. TN ICT Policy 2018
14. TN State Disaster Management Perspective Plan 2018 – 2030
15. Vision Tamil Nadu 2023
16. IMPRINT 2.0
17. SHE SCHEME
18. NATIONAL DIGITAL POLICY 2018
19.

Organizations on Science and Technology

1. India based Neutrino Observatory(INO)
2. Indian Space Research Organization – ISRO
3. Defence Research and Development Organization – DRDO
4. Bhaba Atomic Research Center – BARC
5. Council of Scientific and Industrial Research - CSIR
6. Central Institute of Plastics Engineering & Technology – CIPET
7. Indian Agricultural Research Institute – IARI
8. Indian Institute of Remote Sensing – IIRS
9. Indian Institute of Space Science and Technology – IIST
10. Indira Gandhi Centre for Atomic Research – IGCAR
11. National Institute of Oceanography – NIO
12. Shanti Swarup Bhatnagar Prize for Science and Technology
13. NEERI - National Environmental Engineering Research Institute, Nagpur
14. NPCIL
15. BHAVINI
16. UGC
17. AICTE
18. APSARA – U
19. Antrix Corporation

Role, achievement & impact of Science and technology

1. Laser and Its Application
2. MRI and it Application
3. Nano Technology and its Application
4. Bio Technology and its Application
5. Remote Sensing and its uses
6. Robotics
7. GEAC – Genetic Engineering Approval Committee
8. GMO – Genetically Modified Organism and its uses
9. Biopiracy
10. Cloning
11. SOPHIA
12. SAM
13. Internet of Things(IoT)
14. 3D Printing
15. Black Chain Technology
16. Big Data
17. Virtual and Augmented Reality
18. Working of Touch Screen
19.

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Energy - self sufficiency, Oil exploration

1. International Solar Alliance
2. Paris Agreement
3. Shale Gas
4. Hydrocarbon
5. Biogas
6. Bio-fuel and its generations
7. Geothermal Energy
8. Kamudhi – Significance
9. Shakthi Sthala – Importance
10. Floating Solar Park
11. Nuclear Energy Advantage and Disadvantage.
12. ITER Project
13. Radio Active Dating
14. Radio Theraphy
15. APSARA, KAMINI
16. Tidal Energy
17. Wave Energy
18. Nuclear Power Plants in India

Computer Science and advancement

1. Generation of Computers with example
2. Expand the terms:
    a) ENIAC
    b) RAM
    c) ROM
    d) BIOS
    e) ASCII
    f) EBCDIC
    g) ISCII
    h) PROM
    i) EPROM
    j) URL
    k) HTTP
    l) HTML
3. Artificial Intelligence
4. Types of Mouse
5. Who invented Mouse/Computer/Internet
6. Bar Code VS QR Code
7. OCR VS BCR
8. GUI
9. Keyboard VS Keyer
10. Printer Vs Plotter
11. Types of Printers
12. Impact Printer Vs Non Impact Printers
13. Inkjet printers vs Laser Printers
14. Cold Booting Vs Warm Booting
15. Primary Memory Vs Secondary Memory
16. Machine Language
17. Assembly Language
18. High Level Language
19. Robotics
20. Biotechnology
21. Nanotechnology
22. Addition and subtraction of Binary numbers
23. Subtraction using 2's complement
24. 1's Complement
25. 2's Complement
26. Decimal to Binary Conversion
27. Boolean Algebra
28. Gates, Types
29. Universal Gates Vs Basic Gates
30. AND, OR, NOT, NOR, NAND
31. XOR vs XNOR
32. DeMorgan's Law
33. CISC
34. Microprocessor
35. Types of Microprocessor
36. Types of Memory Devices
37. RAM – DRAM, SRAM
38. ROM – PROM, EPROM, EEPROM
39. Cache Memory
40. CD/DVD/Blu Ray
41. Flash Memory
42. HDMI
43. Operating System
44. Types of Operating System
45. Characteristics of OS
46. Goals of OS
47. Uses of Operating System

48. Software – Types of Software
49. Application Software vs System Software
50. Multi Processing
51. Multitasking
52. Multiprogramming
53. Distributed Operating system and its advantages
54. Android
55. Algorithm
56. Flow Chart
57. Pseudo code
58. Compiler
59. Bits Vs Bytes Vs Nibble
60. Functions of CPU
61. MICR Vs OMR
62. Adder, Subtractor
63. Flip-flop
64. Network
65. Application of Network
66. Types – LAN. MAN, WAN
67. Network Topology
68. Modem
69. Data Transmission Mode – Types
70. WWW
71. FTP, TELNET
72. TCP
73. ICANN
74. URL
75. E-WASTE
76. e-Governance and its advantages
77. m-Governance and its advantages
78. Blue Tooth Vs Wi-Fi
79. Social Media – Advantages and Disadvantages
80. VoLTE
81. BHIM APP
82. Pratyush, Mihir
83. Search Engine