



Rao IIT Academy

Symbol of Excellence and Perfection

JEE | MEDICAL-UG | BOARDS | KVPY | NTSE | OLYMPIADS | MHT-CET

NATIONAL STANDARD EXAMINATIONS (NSEs) 2016 QUESTION PAPER ANALYSIS (NSEP, NSEC, NSEB, NSEA)





GENERAL OVERVIEW

❖ National Standard Examinations (NSEs) 2016

- National Standard Examination in Physics (NSEP)
- National Standard Examination in Chemistry (NSEC)
- National Standard Examination in Biology (NSEB)
- National Standard Examination in Astronomy (NSEA)

❖ **Exam Date:** 27th November 2016

❖ **Exam Duration:** 2 Hrs.

- NSEP: 8.30 AM – 10.30 AM
- NSEC: 11.00 AM – 1.00 PM
- NSEB: 1.30 PM – 3.30 PM
- NSEA: 1.30 PM – 3.30 PM

❖ Paper Pattern

Examination	Total No. of Questions	Question Type & Marking Scheme	Total Marks
NSEP	70	MCQs - Single Correct Option (Q. No. 1 to 60) (+3 for correct answer, -1 for wrong answer) MCQs - Multiple Correct Options (Q. No. 61 to 70) (+6 for correct answers, no negative marks)	240
NSEC	80	MCQs - Single Correct Option (Q. No. 1 to 80) (+3 for correct answer, -1 for wrong answer)	240
NSEB	80	MCQs - Single Correct Option (Q. No. 1 to 80) (+3 for correct answer, -1 for wrong answer)	240
NSEA	80	MCQs - Single Correct Option (Q. No. 1 to 80) (+3 for correct answer, -1 for wrong answer)	240

RISE - Rao Intelligence Search Exam 2016 | Mumbai: 4th Dec 2016 (11.00 AM – 1.00 PM)

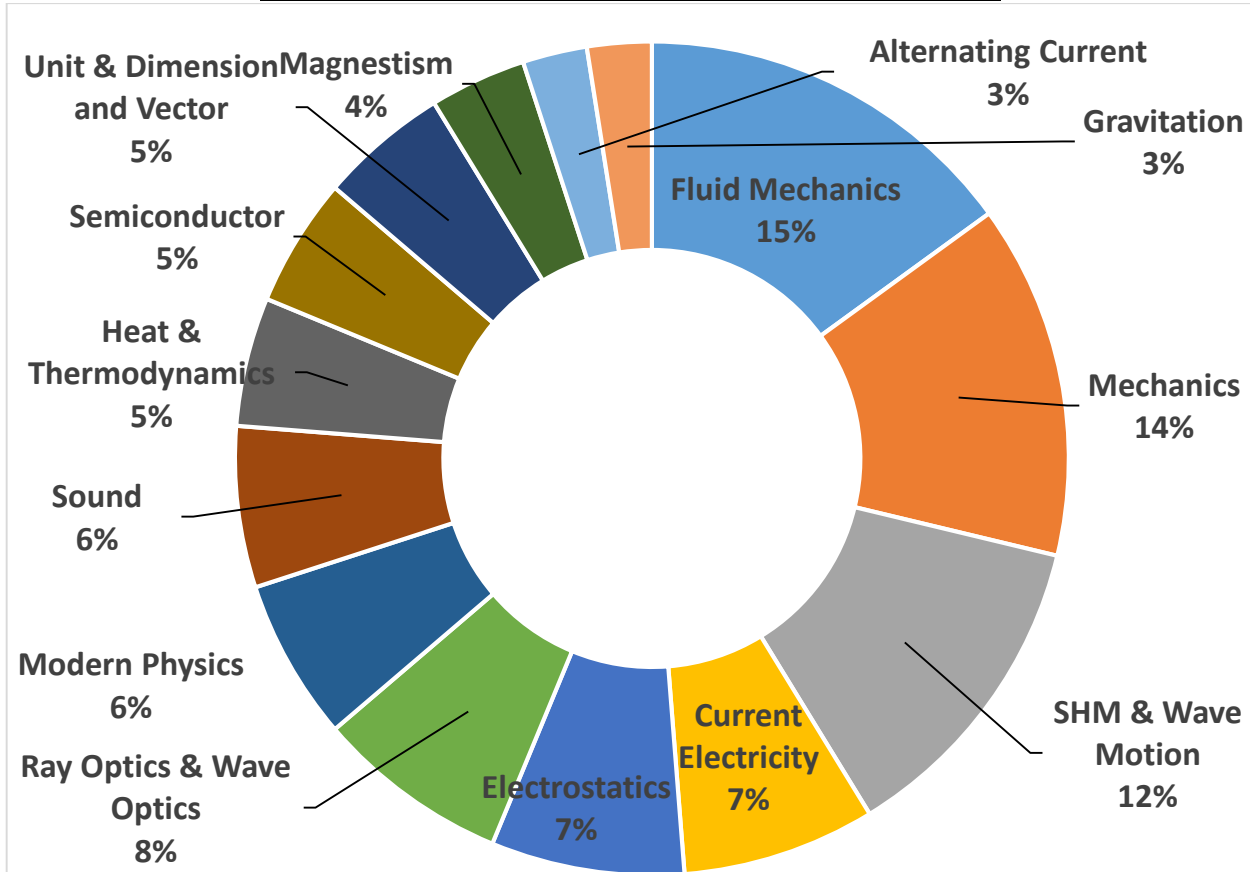
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NSEP

TOPIC WISE MARKS DISTRIBUTION



Topics	Marks
Fluid Mechanics	36
Mechanics	33
SHM & Wave Motion	30
Current Electricity	18
Electrostatics	18
Ray Optics & Wave Optics	18
Modern Physics	15
Sound	15
Heat & Thermodynamics	12
Semiconductor	12
Unit & Dimension and Vector	12
Magnetism	9
Alternating Current	6
Gravitation	6
Total Marks	240

PBSC – Pune’s Best Student Contest 2016 | Pune: Stage I - 11th Dec 2016

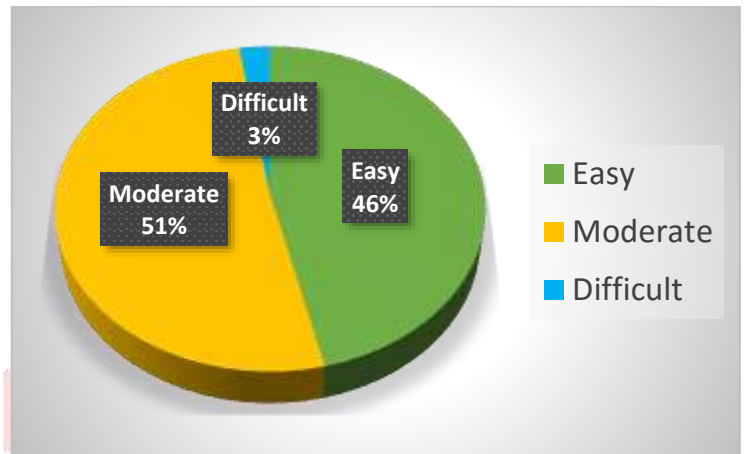
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DIFFICULTY LEVEL VS MARKS DISTRIBUTION

Difficulty Level	Marks
Easy	111
Moderate	123
Difficult	6
Grand Total	240



Sr. No.	Topic	Marks Easy	Marks Moderate	Marks Difficult	Total
1	Fluid Mechanics	3	27	6	36
2	Current Electricity	6	12		18
3	Electrostatics	3	15		18
4	Simple Harmonic Motion	15	3		18
5	Kinematics	3	12		15
6	Modern Physics	12	3		15
7	Sound	12	3		15
8	Heat & Thermodynamics	9	3		12
9	Semiconductor	12			12
10	Wave Motion	6	6		12
11	Magnetism	6	3		9
12	Ray Optics	3	6		9
13	Unit & Dimension	3	6		9
14	Wave Optics	6	3		9
15	Alternating Current	3	3		6
16	Gravitation	3	3		6
17	Newton's Laws of Motion & Friction	3	3		6
18	System of Particles		6		6
19	Rotation	3			3
20	Vectors		3		3
21	Work, Power & Energy		3		3
	Grand Total	111	123	6	240

NBSC – Nagpur’s Best Student Contest 2016 | Pune: Stage I - 18th Dec 2016

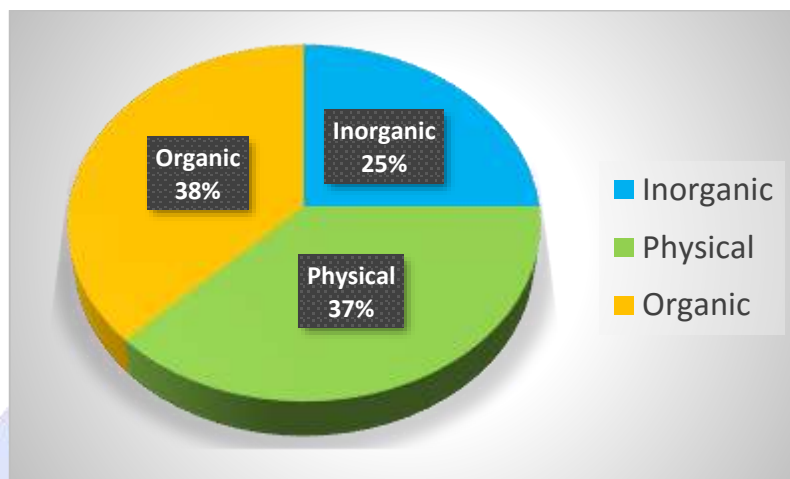
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NSEC

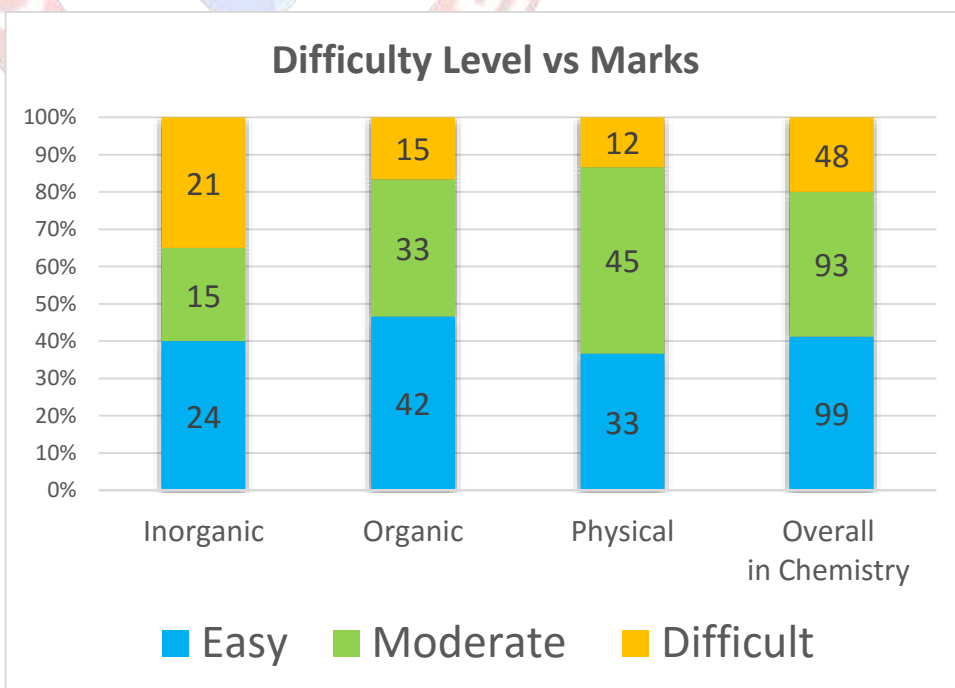
MARKS DISTRIBUTION

Chemistry	Marks
Inorganic	60
Physical	90
Organic	90
Total	240



DIFFICULTY LEVEL

Difficult Level	Marks
Easy	99
Moderate	93
Difficult	48
Total	240



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NSEC

TOPIC WISE DIFFICULTY LEVEL & MARKS DISTRIBUTION

Topic	Easy	Moderate	Difficult	Total
P - block	12	9	6	27
Electrochemistry	6	12	3	21
Atomic Structure	9	9		18
Coordination Compound	6	6	6	18
Aromatic Compound	9	3	3	15
Chemical Kinetics	6	6		12
Thermodynamics	6	3	3	12
General Organic Chemistry	3	6		9
Practical Organic Chemistry	3	6		9
Qualitative Analysis	6		3	9
Alkenes		6		6
Biomolecules	3	3		6
Chemical Bonding	6			6
f - block			6	6
Gaseous State	3	3		6
Ionic Equilibrium		6		6
Solid State			6	6
Alcohols		3		3
Alkane	3			3
Alkyl Halide	3			3
Alkynes	3			3
Amines	3			3
Carbonyls		3		3
Chemistry in everyday life	3			3
Esters			3	3
Mole Concept		3		3
Nomenclature	3			3
Periodic Properties			3	3
Phenols			3	3
Polymers			3	3
Solution		3		3
Stereochemistry		3		3
Surface Chemistry	3			3
Total	99	93	48	240

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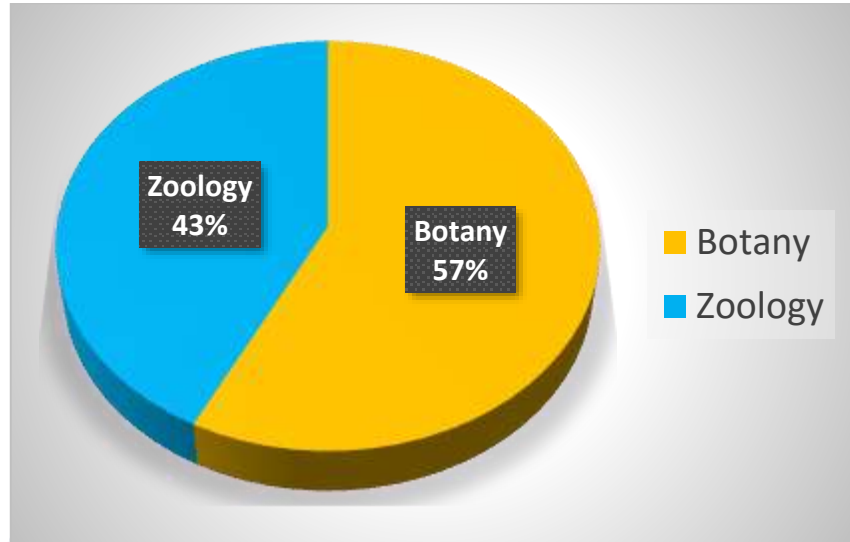
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NSEB

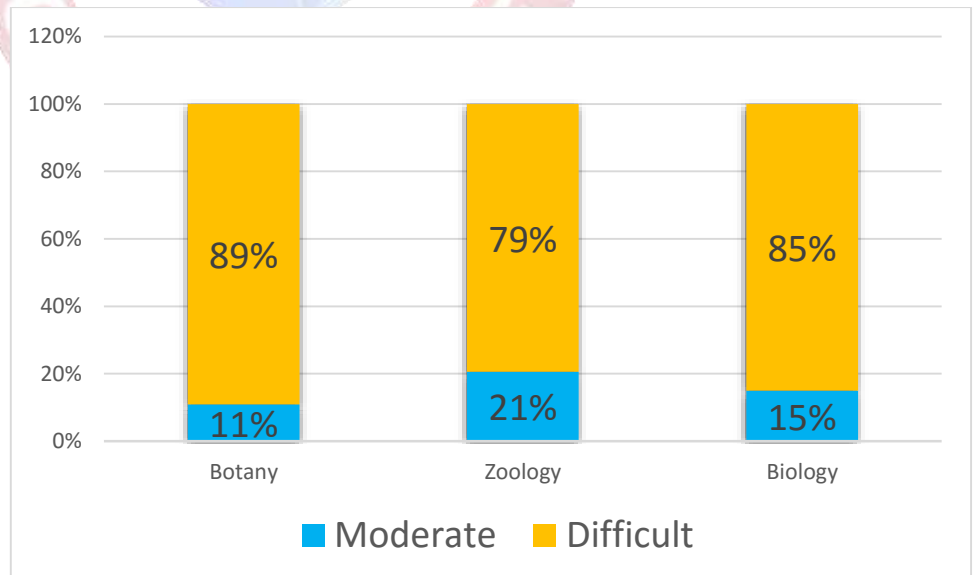
MARKS DISTRIBUTION

Biology	Marks
Botany	138
Zoology	102
Total	240



DIFFICULTY LEVEL VS MARKS

Difficulty Level	Marks
Easy	0
Moderate	36
Difficult	204
Grand Total	240



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NSEB

TOPIC WISE DIFFICULTY LEVEL & MARKS DISTRIBUTION

Topic	Moderate	Difficult	Total
Ecology		27	27
Biomolecules		24	24
Cell: The unit of life	3	21	24
Control & Coordination	3	15	18
Biological Classification	6	9	15
Genetics	3	12	15
Molecular Basis of Inheritance	3	12	15
Biotechnology		12	12
Plant Growth & Development		12	12
Cell Respiration	3	6	9
Ecosystem	3	6	9
Evolution		9	9
Immunology		9	9
Reproduction	3	6	9
Breathing & Respiration		6	6
Excretion & Osmoregulation		6	6
Photosynthesis		6	6
Anatomy of Plants		3	3
Animal Tissue	3		3
Cell Division	3		3
Digestion & Absorption	3		3
Locomotion		3	3
Total	36	204	240

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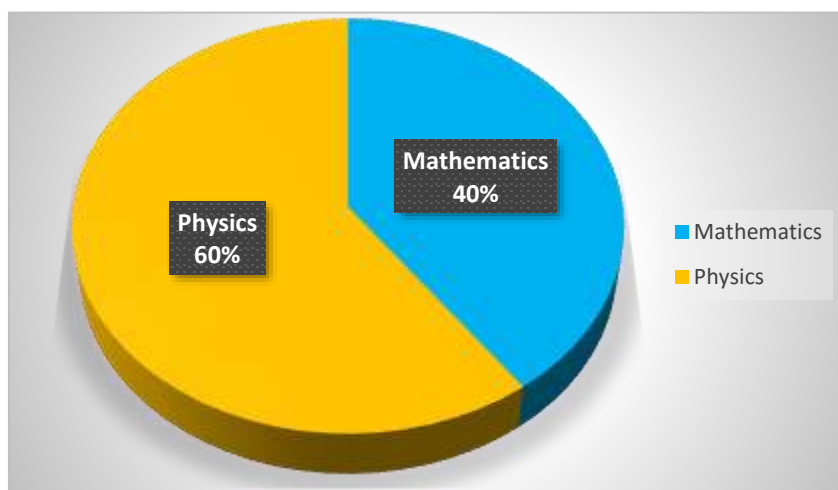
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NSEA

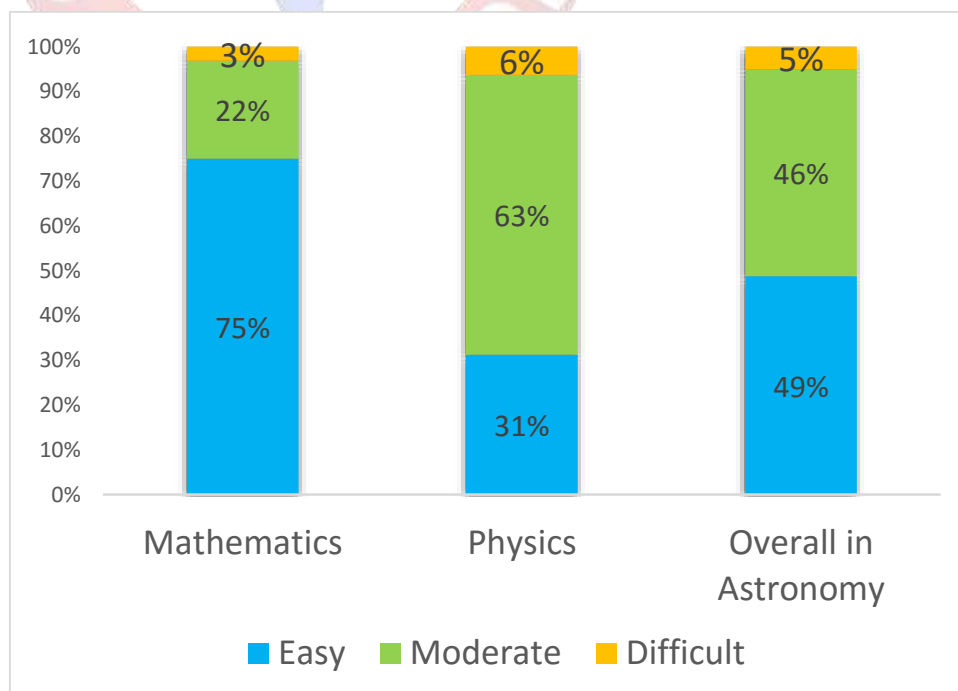
MARKS DISTRIBUTION

Astronomy	Marks
Mathematics	96
Physics	144
Total	240



DIFFICULTY LEVEL VS MARKS

Difficulty Level	Marks
Easy	117
Moderate	111
Difficult	12
Total	240



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NSEA

TOPIC WISE DIFFICULTY LEVEL & MARKS DISTRIBUTION

Row Labels	Easy	Moderate	Difficult	Total
Mathematics	72	21	3	96
Function	9			9
Number System	9			9
Number Theory	3	3	3	9
Sets	9			9
Complex Number	6			6
Geometry		6		6
Inequalities	3	3		6
Logarithm	3	3		6
Mathematical Reasoning	6			6
Algebra & Number Theory		3		3
Binomial Theorem	3			3
Calculus		3		3
Conics	3			3
Definite Integral	3			3
Differentiability	3			3
Graphs	3			3
Limit	3			3
Permutation & Combination	3			3
Trigonometry	3			3
Physics	45	90	9	144
Gravitation	15	27	9	51
Optics	3	12		15
Fluid Mechanics	6	6		12
Rotational Mechanics		9		9
System of Particles		9		9
Current Electricity	6			6
Heat & Thermodynamics	3	3		6
Newton's law of Motion		6		6
Sound		6		6
Vectors	6			6
Work Power Energy	3	3		6
Friction		3		3
Magnetism		3		3
Measurements	3			3
Unit & Dimension		3		3
Total	117	111	12	240

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EXPECTED CUTOFF FOR STAGE II

- **Cutoff:** To be eligible to get to the next level, i.e. **the second stage**, it is necessary that a student scores at-least a Minimum Admissible Score (MAS) which is **40% of the maximum score**.
- **Proportional Representation Clause:** The maximum number of students that can get to **Stage II (INO)** in each subject is around **300**. These many students are not selected only on the merit basis but also on proportionate basis. This proportion is decided on the base of the number of candidates who appeared for NSE in the previous year from that center in each State or Union Territory (UT). In case there is a tie at the last position, then all the students competing for the last position will be eligible to move to stage II. However, it's necessary that the selected students fulfill the eligibility clause laid out above.
- **Minimum Representation Clause:** Notwithstanding the proportional representation clause the number of students selected for INO from each State and UT must be at least one, provided that the eligibility clause is satisfied.
- **Merit Clause:** As stated above, approximately 300 students are to be selected for second stage. If this does not happen according to MAS, then after selection as per merit, the shortfall from 300 students will be selected based purely on merit without further consideration to proportional representation and minimum representation clauses. In the event of a tie at the last position in the list all students with the same marks at this position will qualify to appear for the Stage II examination.

Expected Cutoff for Stage II by Rao IIT Experts (For Maharashtra State)

Examination	2015 MI	2015 MAS	2016 Expected MI	2016 Expected MAS
NSEP	128	80	138	85
NSEC	150	93	140	80
NSEB	133	83	127	80
NSEA	148	93	150	98

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