

NSEJS - 2016

A Detailed Analysis by Resonance

On 20th November 2016, NSEJS (National Standard Examination in Junior Science) - 2016 exam was conducted by the Indian Association of Physics Teachers (IAPT) at many centers all over the country. NSEJS is the stepping stage for selection of aspiring and talented students in the Junior Science Olympiad Program. The student can move forward to other stages only after clearing this stage.

Eligibility: Only Indian citizens born on or after January 1, 2002 and are students studying in Class X or lower as of November 30, 2016, can apply and appear for NSEJS 2015 – 2016. The student has to himself re-assure his eligibility. At any stage if the student is found to be not eligible for the exam, he/she may be disqualified from the program.

Syllabus: The syllabus for National Standard Examination in Junior Science (NSEJS) is almost similar as the curriculum of secondary level (Class IX and Class X) of CBSE. However, only basic guideline for the course is mentioned. No detailed syllabus is given for NSEJS. There were questions from physics, mathematics, biology and chemistry.

Question Paper: The medium of test was English only and it comprised of 80 objective type questions, each with only one of the four options correct with 3 marks each and -1 negative marking for incorrect answer.

Qualifying for the Second Stage: The basic objective of conducting this test is not focusing on merit but to involve as many students from the country to participate in the exam and try to show and expose their talent. Hence the selection to the stage II examinations i.e. Indian National Olympiad Examinations (INOs) is based on the following scheme:

a) Eligibility Clause: 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 50% of the average of top 10 students across the nation.

b) 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. The total number to be selected from centers in each State for each subject will be displayed on the IAPT and HBCSE websites.

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. However, all the students scoring 80% of the average of top 10 students are considered selected even if the total selections surpassed 300.

There will be no other criterion or provision for selection to the Indian National Olympiad Examinations (INOs). All students who qualify to appear for the INJSO get a certificate of merit from IAPT.

OVERALL MARKS DISTRIBUTION

The paper pattern was same as last year. The paper had 80 questions each worth 3 marks. All questions were objective type with single correct option. If we talk about subject wise, then there were 20 questions from Physics and Biology, and 21 questions were from Mathematics and 19 questions were asked from Chemistry.

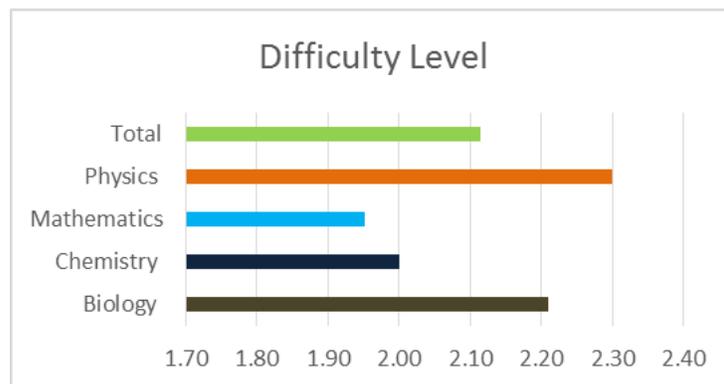
Subject	Class 9		Class 10		Class 11	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Biology	11	33	9	27		
Chemistry	6	18	12	36	1	3
Mathematics	9	27	12	36		
Physics	8	24	12	36		
Grand Total	34	102	45	135	1	3

OVERALL DIFFICULTY LEVEL ANALYSIS

In this analysis we have rated every question on a scale of 1 to 3. The ratings are done by expert faculty of Resonance. The individual ratings are then averaged to calculate overall difficulty level.

- 1: Easy
- 2: Moderate
- 3: Difficult

Subject	Difficulty Level
Biology	2.21
Chemistry	2.00
Mathematics	1.95
Physics	2.30
Total	2.11

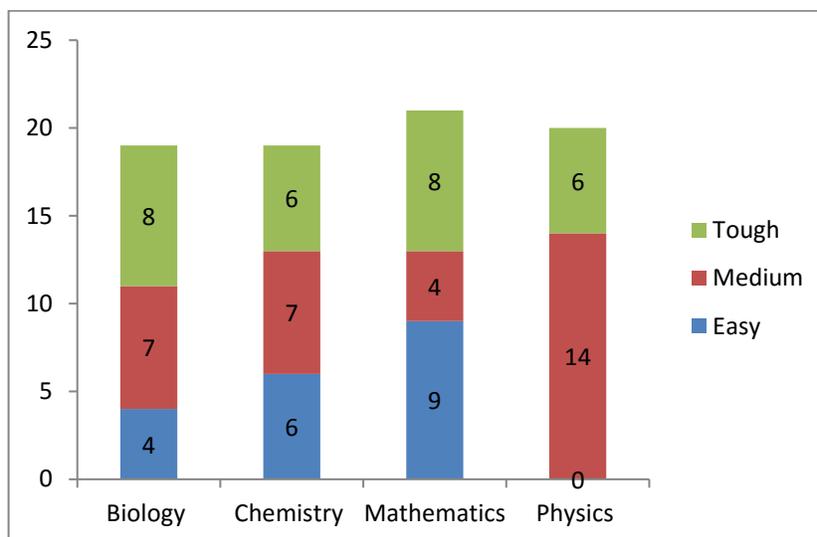


Difficulty Level Analysis: No of Questions

Subject	Easy Level		Medium Level		Difficult Level	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Biology	4	12	8	24	8	24
Chemistry	6	18	7	21	6	18
Mathematics	9	27	4	12	8	24
Physics			14	42	6	18
Grand Total	19	57	33	99	28	84

Resonance Experts feel that all subjects were of similar difficulty level, while Physics was on tougher side compared with Chemistry & Physics. While around 84 Marks can be considered easy overall, 99 marks are moderately difficulty and 57 marks are considered difficult by Resonance Team.

Overall, it is felt by Resonance Faculty Team that paper was on tougher side compared to last year and the cut-off is expected to be lower than that of last year.

Question Wise Difficulty Breakup

SUBJECT WISE ANALYSIS
PHYSICS ANALYSIS

Physics			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Physics	20	60	100.00%
Electricity	5	15	25.00%
Electricity	5	15	25.00%
Fluid	3	9	15.00%
Fluid	3	9	15.00%
Gravitation	1	3	5.00%
Gravitation	1	3	5.00%
HEAT	1	3	5.00%
Heat	1	3	5.00%
Light	6	18	30.00%
Light	6	18	30.00%
Magnetic effect of current	1	3	5.00%
Magnetic effect of current	1	3	5.00%
Motion	1	3	5.00%
Motion	1	3	5.00%
NLM	2	6	10.00%
NLM	2	6	10.00%
Grand Total	20	60	100.00%

CHEMISTRY ANALYSIS

Chemistry			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Chemistry	19	57	100.00%
Acids,Bases and Salts	2	6	10.53%
Acids bases theory	1	3	5.26%
Neutralisation	1	3	5.26%
Atoms and Molecules	2	6	10.53%
Density	1	3	5.26%
Valence electrons	1	3	5.26%
Carbon and its Compounds	3	9	15.79%
Chemical properties of carbon compounds	1	3	5.26%
Isomerisation	2	6	10.53%
Chemical Bonding	1	3	5.26%
Dipole Moment	1	3	5.26%
Evolution of gas	1	3	5.26%
Chemical reactions and equations	1	3	5.26%
Matter in our surroundings	1	3	5.26%
Interconversion of states of matter	1	3	5.26%
Metals and Non metals	4	12	21.05%
Chemical properties of metals	1	3	5.26%
Physical properties of metals and non metals	3	9	15.79%
Mole Concept	3	9	15.79%
Concentration of solution	1	3	5.26%
Stoichiometry	2	6	10.53%
Periodic table	2	6	10.53%
Periodicity	2	6	10.53%
Grand Total	19	57	100.00%

BIOLOGY ANALYSIS

Biology			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Biology	19	57	100.00%
Biomolecules	2	6	10.53%
Nucleic Acid	1	3	5.26%
Protein	1	3	5.26%
Cell division	4	12	21.05%
Endoplasmic reticulum	1	3	5.26%
Meiosis	1	3	5.26%
Osmosis	1	3	5.26%
Prokaryotic cell	1	3	5.26%
Diseases	2	6	10.53%
Antibiotics	1	3	5.26%
Immune system	1	3	5.26%
Diversity	1	3	5.26%
Mollusca	1	3	5.26%
Ecology	2	6	10.53%
Food web	1	3	5.26%
Nitrogen cycle	1	3	5.26%
Excretion	1	3	5.26%
Nephron	1	3	5.26%
Genetics	1	3	5.26%
probability analysis	1	3	5.26%
Respiration	2	6	10.53%
Gaseous exchange	1	3	5.26%
metabolism	1	3	5.26%
Tissue	2	6	10.53%
Neuron	1	3	5.3%
Permanent Tissue	1	3	5.3%
Transportation	2	6	10.5%
Heart	1	3	5.3%
Transpiration	1	3	5.3%
Grand Total	19	57	100.0%

MATHEMATICS ANALYSIS

Mathematics			
UNIT & TOPIC NAME	NO OF QUESTIONS	TOTAL MARKS	(%) WEIGHTAGE
Mathematics	21	63	100.00%
Reasoning	1	3	4.76%
clock	1	3	4.76%
Mensuration	3	9	14.29%
polygons	1	3	4.76%
Surface area and volume	2	6	9.52%
Number system	4	12	19.05%
Division algorithm	1	3	4.76%
Divisors	1	3	4.76%
number system	1	3	4.76%
perfect square and cubes	1	3	4.76%
Permutation and Combination	2	6	9.52%
fundamental principle of counting	2	6	9.52%
Probability	1	3	4.76%
Probability	1	3	4.76%
Progressions	3	9	14.29%
AM,GM and HM	2	6	9.52%
inequalities	1	3	4.76%
sequences	1	3	4.76%
Quadratic Equations	2	6	9.52%
Roots and Discriminant	1	3	4.76%
Quadrilaterals	1	3	4.76%
rhombus	1	3	4.76%
Set theory	1	3	4.76%
power set	1	3	4.76%
Triangles	1	3	4.76%
triangles	1	3	4.76%
Trigonometry	1	3	4.76%
Height and Distances	1	3	4.76%
Grand Total	21	63	100.00%

EXPECTED CUTOFF

Overall, it is felt by Resonance Faculty Team that paper was on tougher side compared to last year and the cut-off is expected to be lower than that of last year. The Cutoff for Rajasthan is estimated to be 125 to 132.