

KVPY – 2015(STREAM – SA)

A Detailed Analysis by Resonance

ABOUT KVPY

The "Kishore Vaigyanik Protsahan Yojana" (KVPY) is a program started in 1999 by the Department of Science and Technology (DST), Government of India to encourage students who are studying Basic Sciences to take up research career in Science. The aim of the program is to identify and encourage talented and motivated students to pursue career in research.

This program aims to assist the students to realize their potential and to ensure that the best scientific talent is groomed for research and development in the country. Generous fellowship and contingency grant are provided to the selected KVPY Fellows up to the pre Ph.D. level or 5 years whichever is earlier. In addition, summer camps for the KVPY Fellows are organized in prestigious research and educational institutions in the country.

The Department of Science and Technology, the nodal agency of the Government has entrusted the overall responsibility for organizing and running the KVPY Program to the Indian Institute of Science, Bangalore and set up a Management Committee and a National Advisory Committee (NAC) for overseeing its implementation. A core committee looks after both the day-to-day and academic aspects of the KVPY Program¹.

OBJECTIVES OF KVPY

- To encourage and identify talented students with interest in research area
- The program aims to assist and encourage the students to realize their research potential and to ensure that the best scientific talent is developed for research and growth in India
- Provides scholarship and grant (up to the pre-Ph.D. level) to the selected students

BENEFITS OF KVPY

- Monthly fellowship of ₹4000 & annual contingency of ₹16000
- KVPY fellows get opportunity to spend some time in scientific institutions attending lectures by experts in different fields of science, engineering or medicine, experience a research environment with science in action, watch scientists at work, interact with scientists, visit nearby scientific research laboratories and institutions, and exchange views with other research students.
- An Identity Card is issued to each KVPY Fellow. Several national laboratories, universities and other institutions have agreed to extend special privileges like library, laboratory facilities to KVPY Fellows on production of the ID card.

¹Source: KVPY Official Website (<http://kvpv.iisc.ernet.in/main/about.htm>)

- Direct Admission in various reputed colleges like, IISER, IISC etc.

ELIGIBILITY CRITERIA FOR KVPY

Stream SA: Students enrolled in 11th standard (science subjects) during the academic year 2015-16 and have secured a minimum of 80% (70% for SC/ST) marks in aggregate in mathematics and science subjects in the 10th standard board examination.

Stream SX: Students enrolled in 12th(+2) standard (science subjects) during the academic year 2015-16 and aspiring to join undergraduate program in Basic Sciences (B.Sc/B.S./Integrated M.Sc) for the session 2016 - 17 provided they have secured a minimum of 80% (70% for SC/ST) marks in aggregate in mathematics and science subjects in the 10th standard board examination.

Stream SB: Students enrolled in 1st year B.Sc. /B.S. /Integrated M.Sc. during the academic year 2015-16 and have secured a minimum of 60% (50% for SC/ST) marks in aggregate in science subjects in the 12th Standard Board Examination.

SELECTION PROCEDURE²

Stage – 1: Aptitude Test: The written test (multiple choice) is normally conducted in the first week of November at different centers across the country. The venue details of the test are uploaded on the KVPY website in the month of October. Test date for KVPY-2015 is Sunday, November 01, 2015.

The test is of maximum marks 100 with 80 questions with no negative marking and the weightage of the test is 75%.

Stage – 2: Interview: Based on the performance in the aptitude test, short-listed students are invited for an interview which is the final stage of the selection procedure.

SUBJECTS COVERED

Physics, Chemistry, Mathematics, and Biology.

FELLOWSHIPS

BASIC SCIENCES	MONTHLY FELLOWSHIP	ANNUAL CONTINGENCY GRANT
SA (After Class X)	₹ 4,000	₹ 16,000
SX/SB (Class XII & during 1st to 3rd years of - B.Sc./B.S. /Integrated M.Sc. /M.S.)	₹ 5,000	₹ 20,000
SX /SB - during M. Sc. / 4th to 5th years of Integrated M.Sc. /M.S	₹ 7,000	₹ 28,000

²Source: KVPY Official Website (<http://kvp.y.iisc.ernet.in/main/about.htm>)

KVPY- 2015(SA)

KVPY – 2015 was conducted on Sunday, November 1st, 2015 for all of the streams.

SA Stream: Paper was conducted from 09:30 am to 12:30 pm and a total number of 80 questions were asked. Question format was multiple choice with only one correct option out of four with negative (0.25 for first 60 questions each and 0.50 marks for last 20 questions each) marking. First 60 questions carried 1 marks each and last 20 questions carried 2 marks making it a 100 marks paper in total.

OVERALL MARKS DISTRIBUTION

The paper pattern was same as last year. The paper had 80 questions. First 60 questions carried 1 marks each and last 20 questions carried 20 marks making it a 100 marks paper in total. All questions were objective type with single correct option. Subject wise each subject had 20 questions of 25 marks.

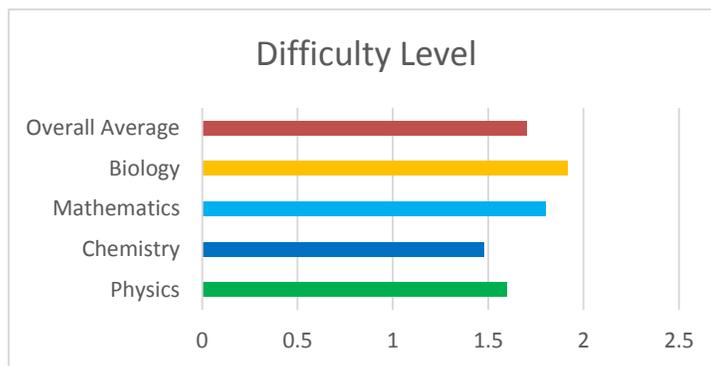
SUBJECTS	SA	
	No of Question	Total Marks
PHYSICS	20	25
CHEMISTRY	20	25
MATHEMATICS	20	25
BIOLOGY	20	25
GRAND TOTAL	80	100

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
Physics	1.60
Chemistry	1.48
Mathematics	1.80
Biology	1.92
Overall Average	1.70



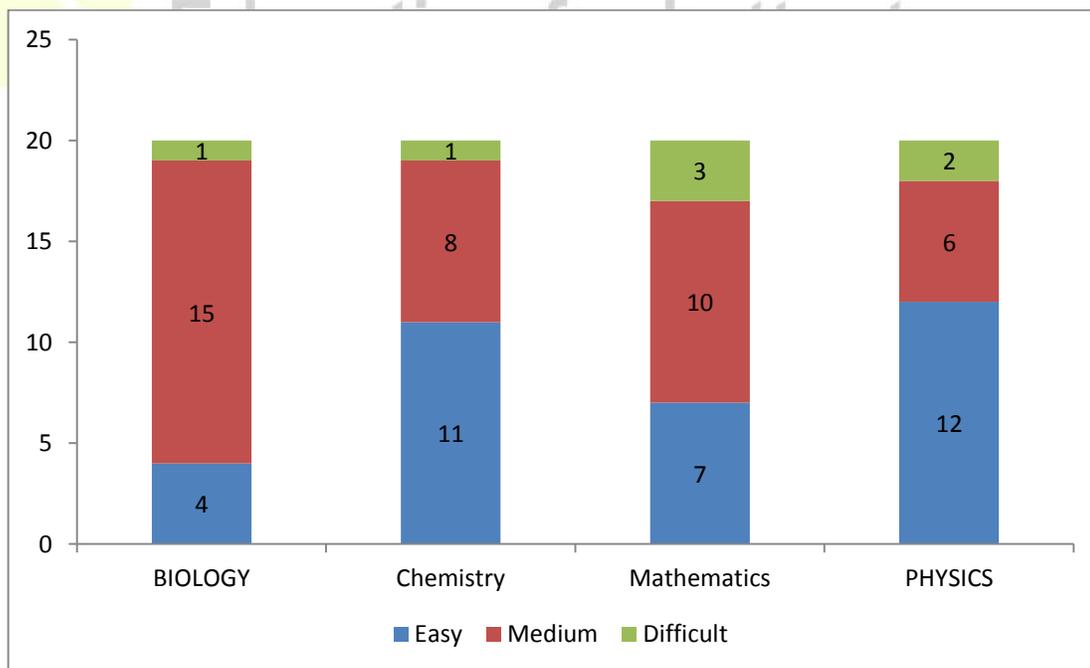
Difficulty Level Analysis: Number of Questions

STREAM: SA						
SUBJECT	EASY LEVEL		MEDIUM LEVEL		DIFFICULT LEVEL	
	No of Questions	Total Marks	No of Questions	Total Marks	No of Questions	Total Marks
Physics	12	13	6	9	2	3
Chemistry	11	14	8	10	1	1
Mathematics	7	8	10	14	3	3
Biology	4	4	15	19	1	2
GRAND TOTAL	34	39	39	52	7	9

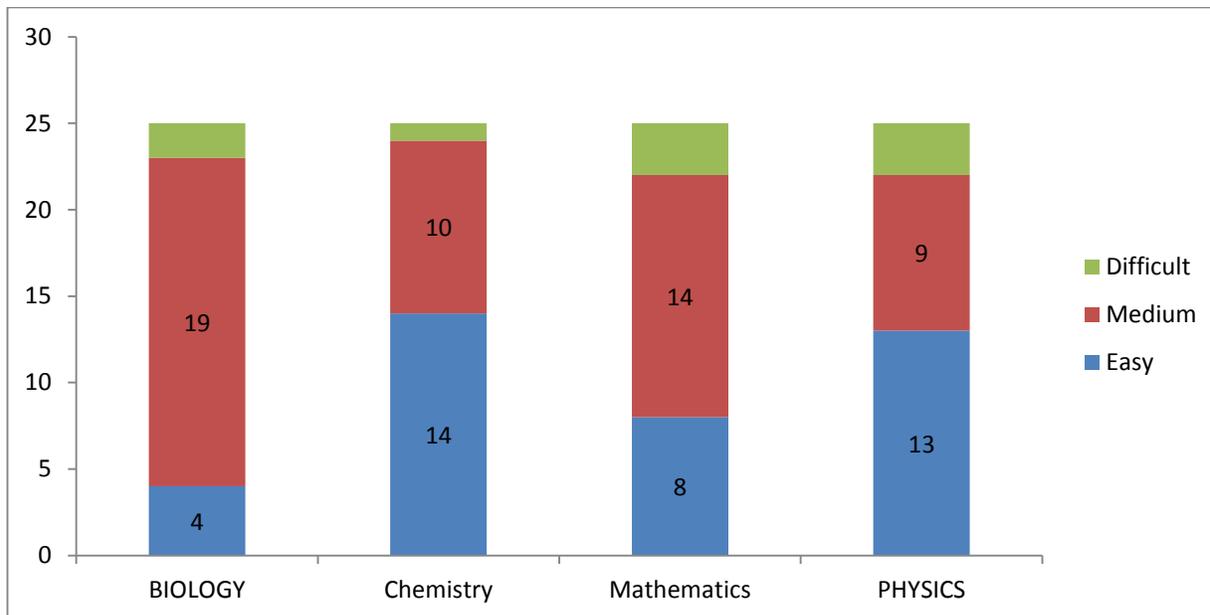
Resonance Experts feel that all subjects were of similar difficulty level, while Chemistry was on easier side compared with Physics, Biology & Mathematics. While around 39 Marks can be considered easy overall, 52 marks are relatively difficult and 9 marks are considered difficult by Resonance Team.

Overall, it is felt that while paper is moderately difficulty, **the cut-off may rise from last year.**

Question Wise Difficulty Breakup



Mark Wise Difficulty Breakup



SUBJECT WISE ANALYSIS

PHYSICS ANALYSIS

Unit & Topic Name	No of Questions	Total Marks	% Weightage
OVERALL BREAKUP	20	25	25.00%
Electrodynamics	1	1	1.00%
Current Electricity	1	1	1.00%
Heat & Thermodynamics	3	4	4.00%
Calorimetry & Thermal Expansion	1	2	2.00%
Heat Transfer	1	1	1.00%
KTG & Thermodynamics	1	1	1.00%
Mechanics	10	12	12.00%
GRAVITATION	4	4	4.00%
NLM	1	1	1.00%
RECTILINIOR MOTION	1	1	1.00%
Rigid Body Dynamics	2	3	3.00%
Unit & Dimension	1	2	2.00%
Unit & Dimension & Error Analysis	1	1	1.00%
MORDAN PHYSICS	1	1	1.00%
NUCLEAR PHYSICS	1	1	1.00%
Optics	5	7	7.00%
Geometrical Optics & Physical Optics	5	7	7.00%

CHEMISTRY ANALYSIS

Unit & Topic Name	No of Questions	Total Marks	% Weightage
OVERALL BREAKUP	20	25	25.00%
Inorganic chemistry-I	3	3	3.00%
Chemical Bonding	1	1	1.00%
Periodic table	1	1	1.00%
S-block	1	1	1.00%
Inorganic Chemistry-II	1	1	1.00%
Metallurgy	1	1	1.00%
Organic Chemistry-1	3	5	5.00%
Hydrocarbon	3	5	5.00%
Organic Chemistry-II	4	4	4.00%
Carboxylic Acid and their Derivatives	2	2	2.00%
IUPAC & Isomerism	2	2	2.00%
Physical Chemistry-I	7	9	9.00%
Atomic Structure & Nuclear Chemistry	1	1	1.00%
Gaseous State	1	1	1.00%
Mole Concept	5	7	7.00%
Physical Chemistry-II	2	3	3.00%
Electrochemistry	2	3	3.00%

MATHEMATICS ANALYSIS

Unit & Topic Name	No of Questions	Total Marks	% Weightage
OVERALL BREAKUP	20	25	25.00%
Algebra	1	1	1.00%
Vector	1	1	1.00%
Binomial Theorem	3	3	3.00%
Binomial Theorem	3	3	3.00%
Coordinate Geometry	7	9	9.00%
Circle	1	1	1.00%
Straight line	6	8	8.00%
Differential Calculus	3	6	6.00%
Functions	3	6	6.00%
Permutation & Combination	2	2	2.00%
Permutation & Combination	2	2	2.00%
Quadratic Equation	3	3	3.00%
Quadratic Equation	3	3	3.00%
Sequence & Series	1	1	1.00%
Sequence & Series	1	1	1.00%

BIOLOGY ANALYSIS

OVERALL BREAKUP	No of Questions	Total Marks	% Weightage
Overall Breakup	20	25	25.00%
Animal Diversity	1	1	1.00%
Annelida	1	1	1.00%
Biologic N2 Fixation	1	1	1.00%
Nitrogen Fixers/ Denitrifying Bacteria	1	1	1.00%
Biomolecule	3	4	4.00%
Carbohydrate	2	3	3.00%
DNA (Nucleic Acid)	1	1	1.00%
Biotechnology	2	3	3.00%
Restriction Enzymes	2	3	3.00%
Blood Circulation	1	1	1.00%
Blood Group	1	1	1.00%
Cell Biology	1	2	2.00%
Cell Membrane	1	2	2.00%
Eco System	1	2	2.00%
Atmosphere Pressure	1	2	2.00%
Human Digestion	1	1	1.00%
Vitamins	1	1	1.00%
Human Digestion	1	1	1.00%
Digestive Enzymes	1	1	1.00%
Human Disease	1	1	1.00%
Human Disease	1	1	1.00%
Human Immunity System	1	1	1.00%
Immunity	1	1	1.00%
Plant Morphology	1	1	1.00%
Morphology	1	1	1.00%
Plant Water Relation	1	1	1.00%
Osmosis	1	1	1.00%
Pollution & Control	1	1	1.00%
Biomagnification	1	1	1.00%
Population Ecology	1	2	2.00%
Population Growth	1	2	2.00%
Respiration	2	2	2.00%
Aerobic Respiration	1	1	1.00%
Glycolysis	1	1	1.00%

EXPECTED CUTOFF

Stream	Cut Off	Total Marks
Stream SA (general)	43	100
SA- SC/ST	32	100
SA- PWD	32	100
Stream SB (general)	50	100
SB- SC/ST	34	100
SB- PWD	34	100
Stream SX (general)	54	100
SX- SC/ST	40	100
SX- PWD	40	100

Last year, the cutoff for SA stream was declared as 43 out of 100. According to Resonance experts, **this year cut off may be 49 ± 3 .**