



Smt. Taisaheb Kadam Sevabhavi Foundation & Research Center, Sonai's

YASH INSTITUTE OF PHARMACY

AURANGABAD (CHHATRAPATI SAMBHAJI NAGAR)

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2.3.2 Teachers use ICT enabled tools for effective teaching-learning process.

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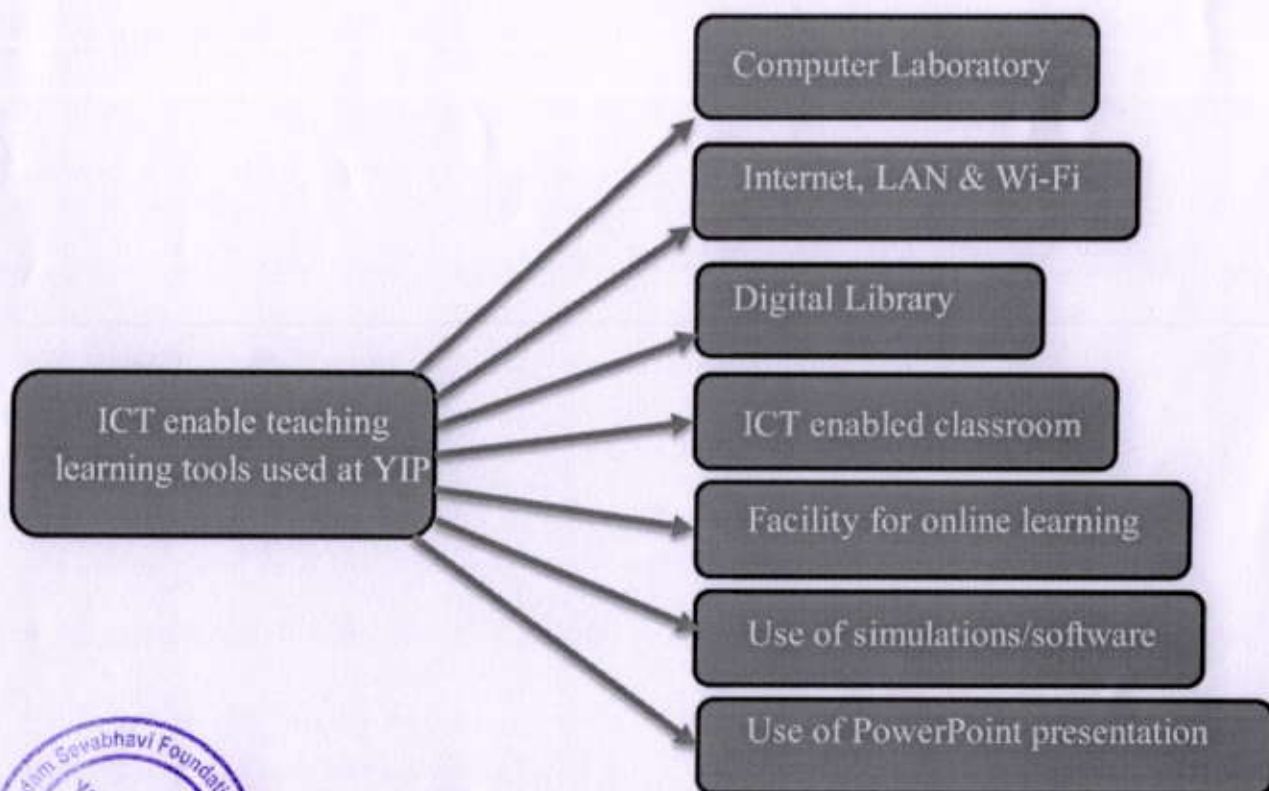


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2.3.2 ICT ENABLED TEACHING LEARNING TOOLS AT YIP

Information and Communication Technology (ICT) comprises of various tools that handle information and produce, store and disseminate information. Use of ICT tools makes education system more effective, creative and thought-provoking. ICT tools help to disseminate instruction most effectively.

We at Yash Institute Of Pharmacy (YIP) encourage regular and intensive use of ICT enabled tools for effective teaching and learning process in addition to the traditional classroom education. The various ICT tools used for effective learning process at YIP are as follows:



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COMPUTER LABORATORY:

The institute has developed ICT with up to date maintained computer laboratory. The students and all faculty members have free access to the computer laboratory.



COMPUTER LABORATORY

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South City, Waluj Road, Aurangabad, Phone No. : 0240-2551763 Email : yashpharmacy1@gmail.com
Postal Address : P.O. Box No. 968, Bajaj Nagar, Waluj, Aurangabad. 431 134 Web. : yashpharmacy.org



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INTERNET, LAN & WIFI:

All the computers are connected to LAN. Internet access is provided through high speed fiber optic broadband of 100 Mbps bandwidth. Students and faculty have free access to internet. The entire campus is Wi-fi enabled and students make use of these resources to update their knowledge base.



INTERNET, LAN & WIFI CONNECTION



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DIGITAL LIBRARY:

Yash Institute Of Pharmacy (YIP) has developed Digital Library. Digital resource access is available for all faculty and all students through digital library. YIP Digital Library have DELNET software. Various resources can be accessed from DELNET software, which include access to E-Books, E-Journal, E-Article etc.



DIGITAL LIBRARY



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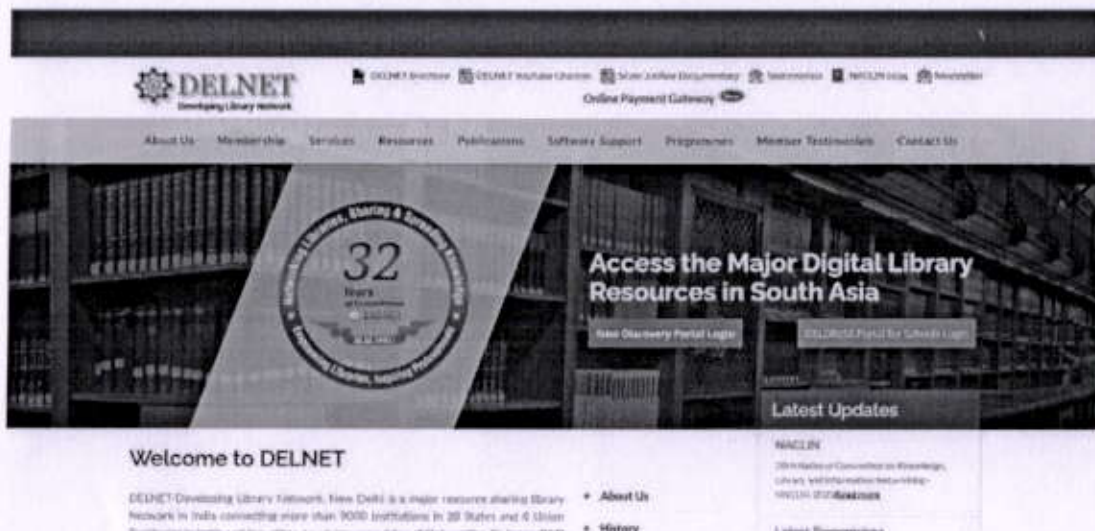


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DELNET SOFTWARE

ICT ENABLED CLASSROOM:

All the classrooms are provided with in-build LCD projectors with audio-visual recording system to make learning more logical and easier during theory classes in online or as blended mode.



CLASSROOM WITH LCD PROJECTOR

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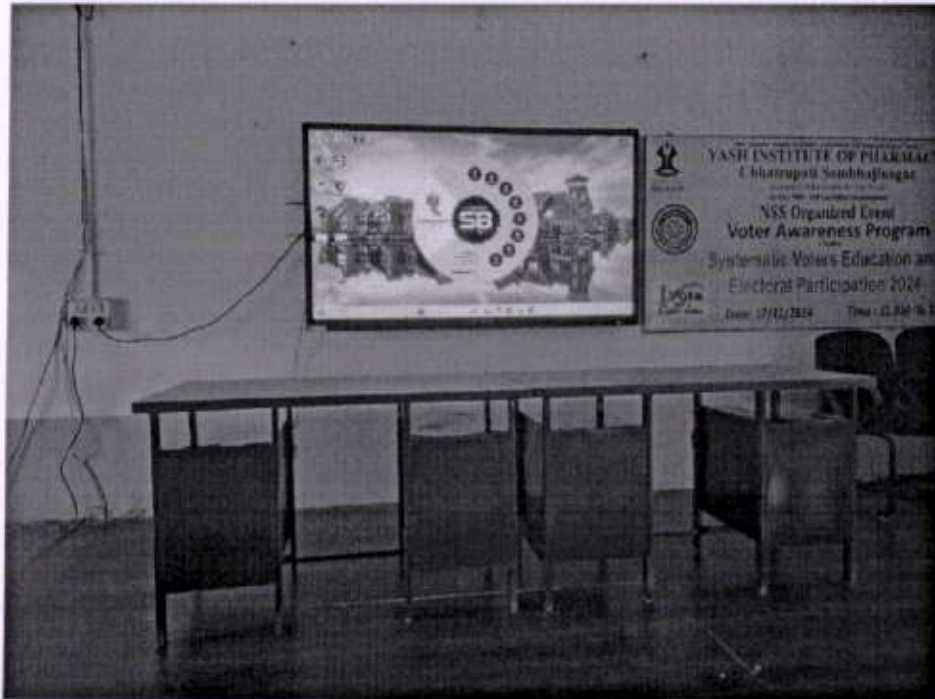
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CLASSROOM WITH SMARTBOARD

FACILITY FOR ONLINE LEARNING:

In addition to class room learning, facility has been created to learn through online courses. The students and teachers are encouraged to take online courses provided by SWAYAM/NPTEL.



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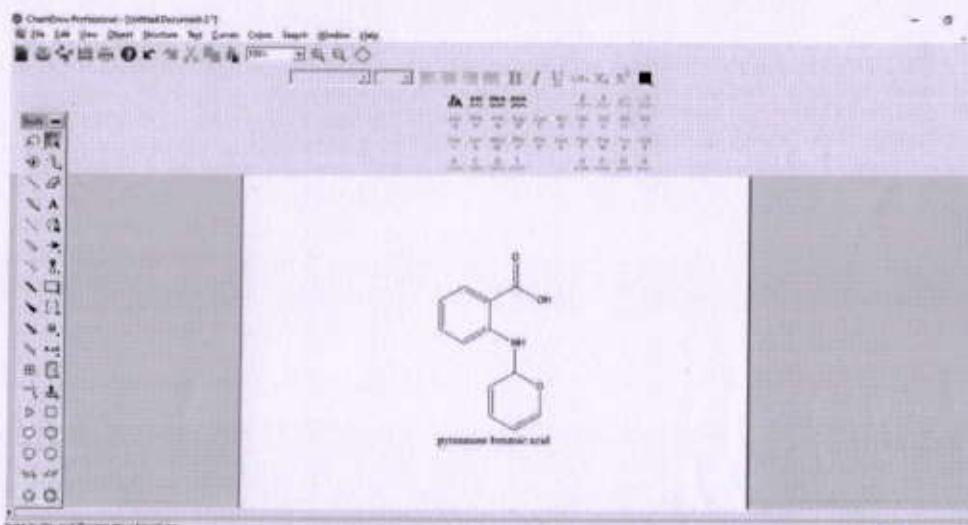
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USE OF SIMULATIONS/SOFTWARE:

The institute uses simulations/software like ExPharm for demonstrating animal experiments in pharmacology, QbD, Design Expert, Minitab software's for experimental designing, SPSS, R-software for statistical work, ARGUS, Autodock software for molecular docking, etc.

Virtual Lab		Ex Pharm Software	Tab
Welcome! Yash Institute of Pharmacy, South city, Cidco Waluj, Mahanagar, Waluj road, Aurangabad, Maharashtra 431134			
Experimental Pharmacology Series			
Experiments List			
*	Study of muscle relaxant activity with the help of "rota rod apparatus"		▶
*	Study of cns depressants & stimulants using "actophotometer".		▶
*	Study of analgesic activity with the help of "tail flick apparatus".		▶
*	Study of antihistaminic drugs with the help of histamine chamber (mast cell stabilization method).		▶
*	Study of analgesic activity with the help of "hot plate apparatus".		▶
*			▶

Ex-pharm software for demonstrating animal experiments in pharmacology



Chemdraw software to draw the structure

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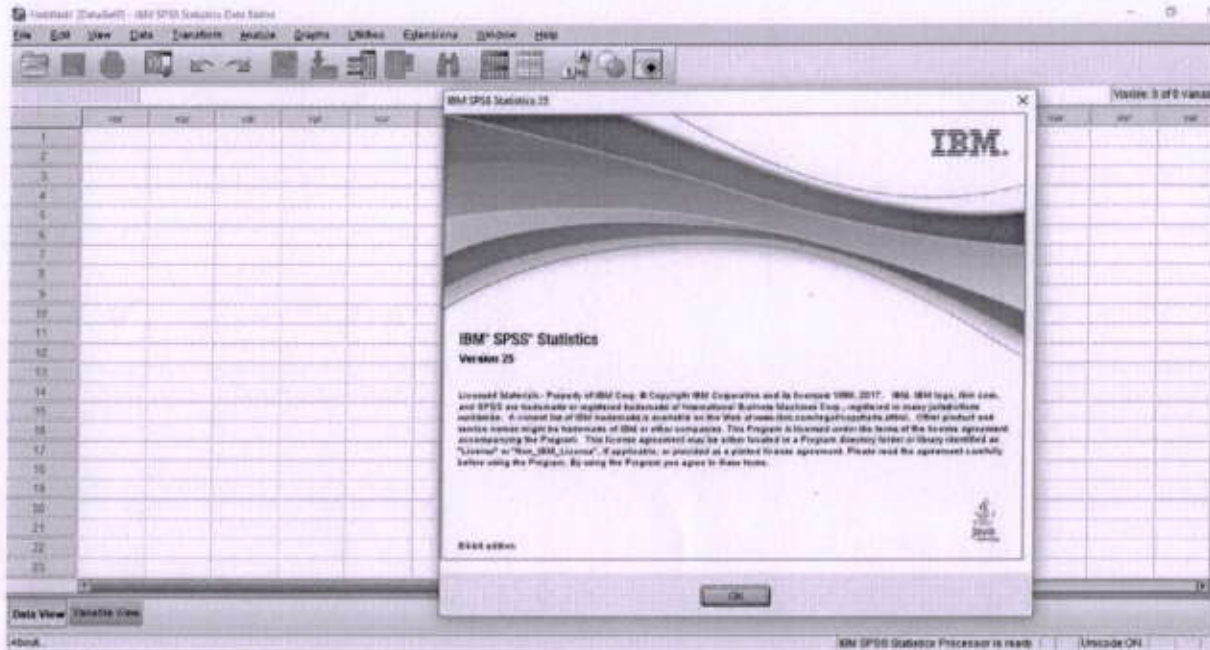


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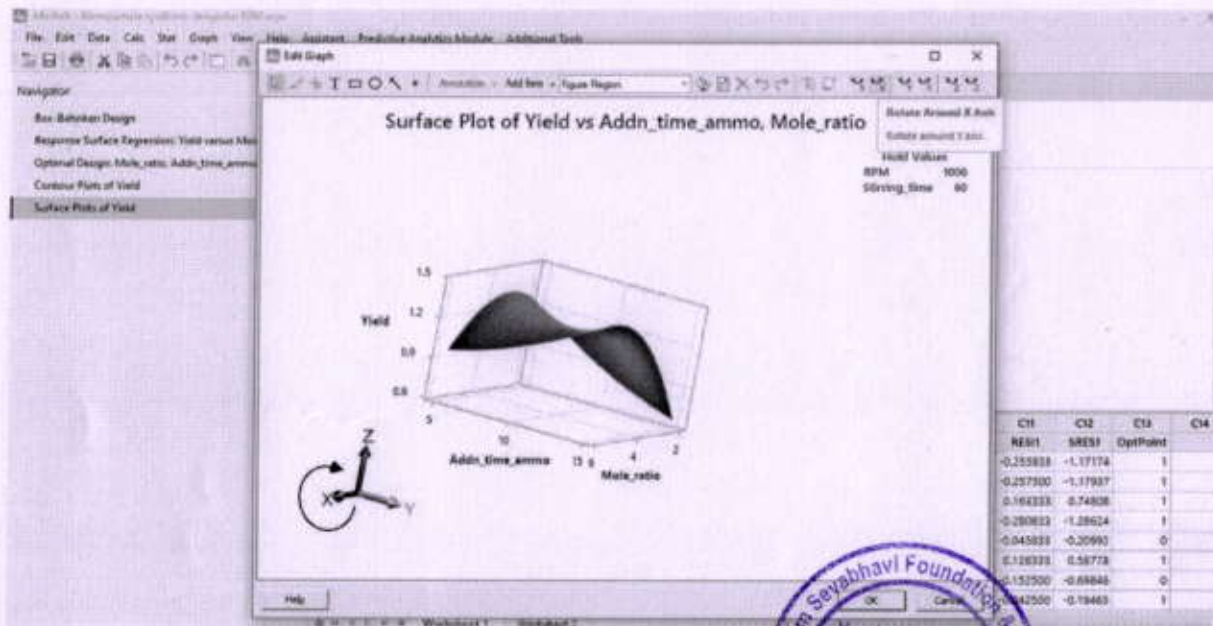


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IBM SPSS Software for statistical work



Minitab Software for Design of Experiments, Quality By Design (QBD)



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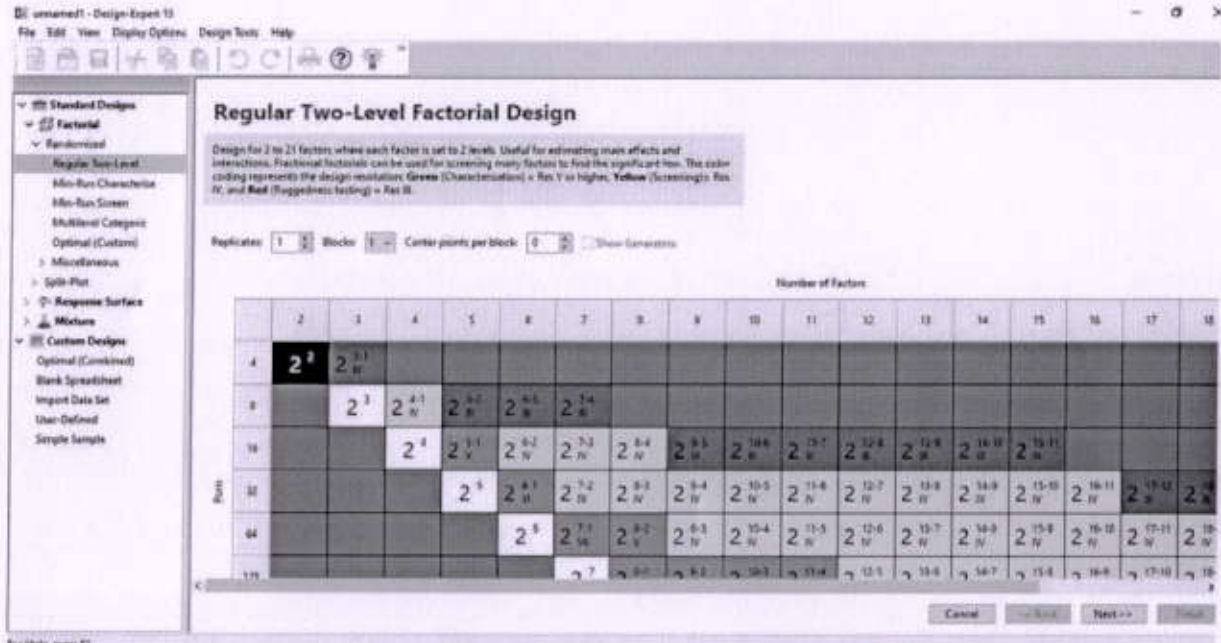


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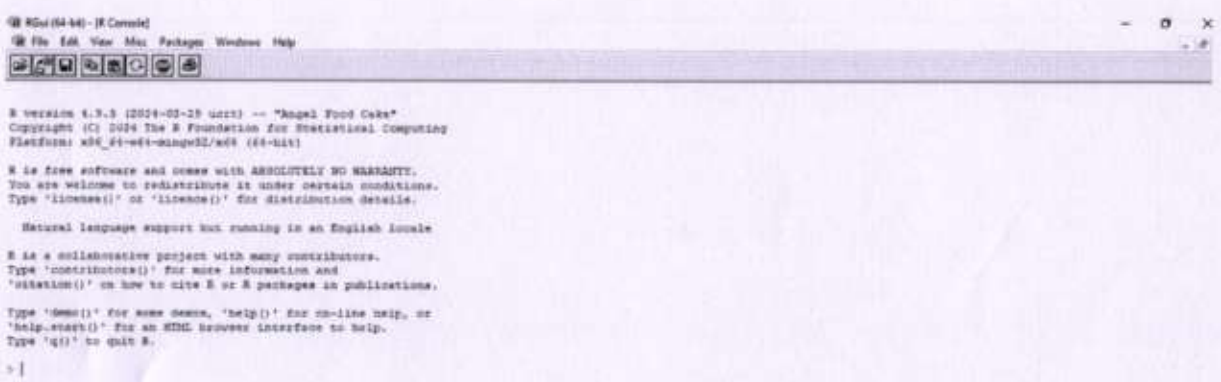


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Design Expert Software for Design of Experiments and Quality By Design



R Software for advanced statistics and design of experiments



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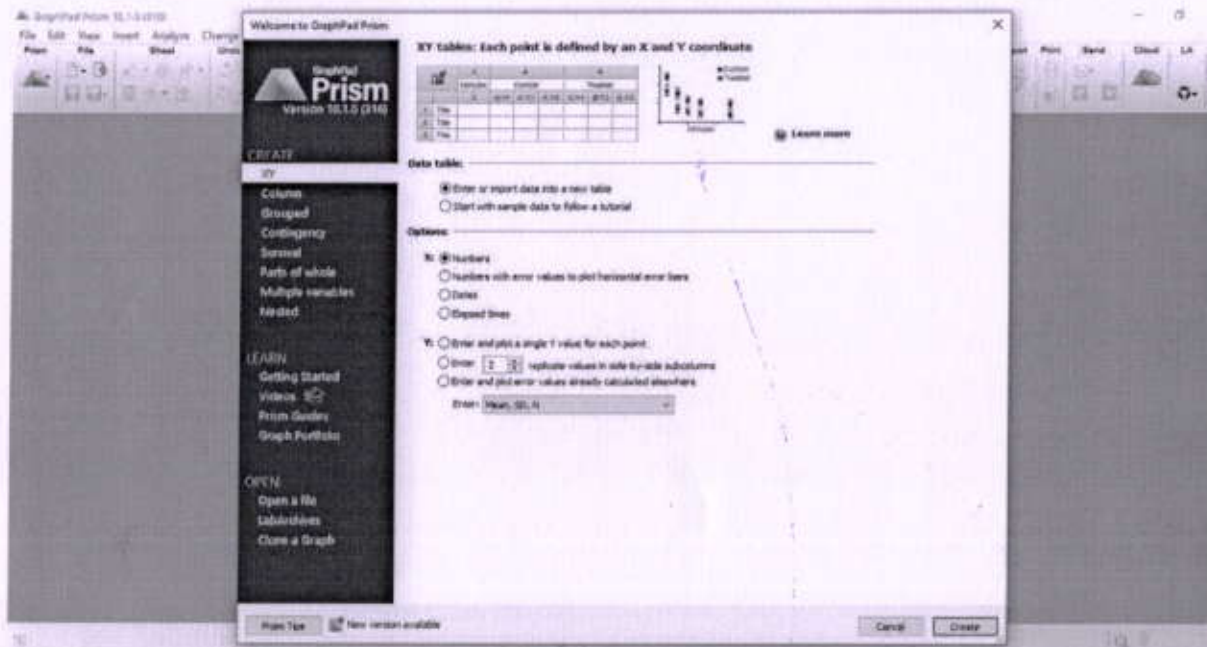


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GraphPad Prism software for graphing and data analysis



EasyNN software for Artificial Neural Network Simulations



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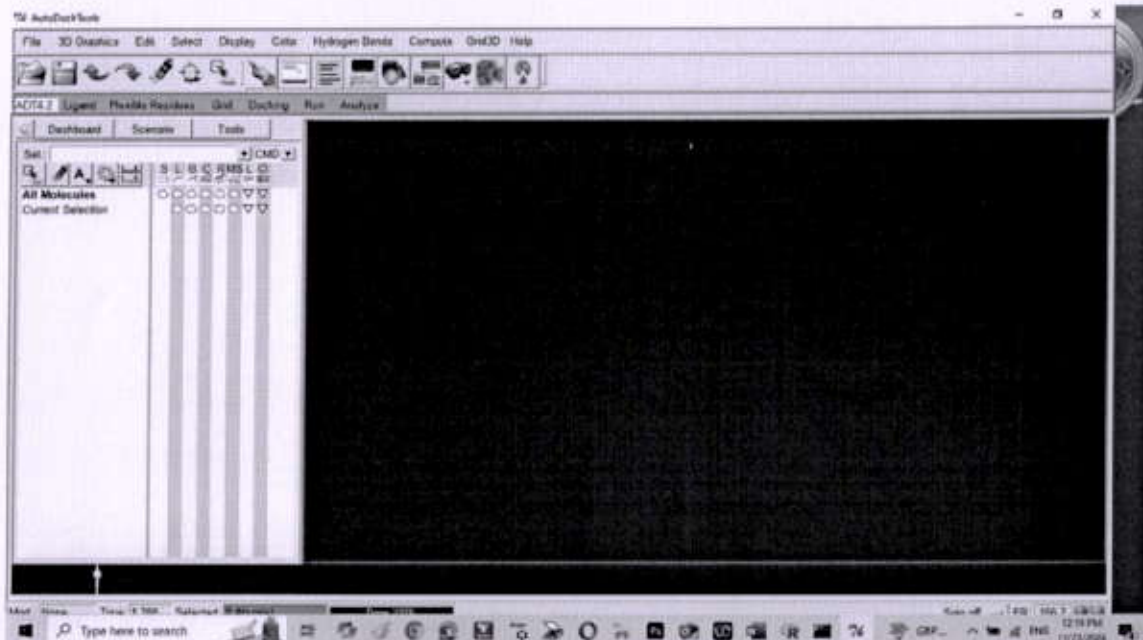


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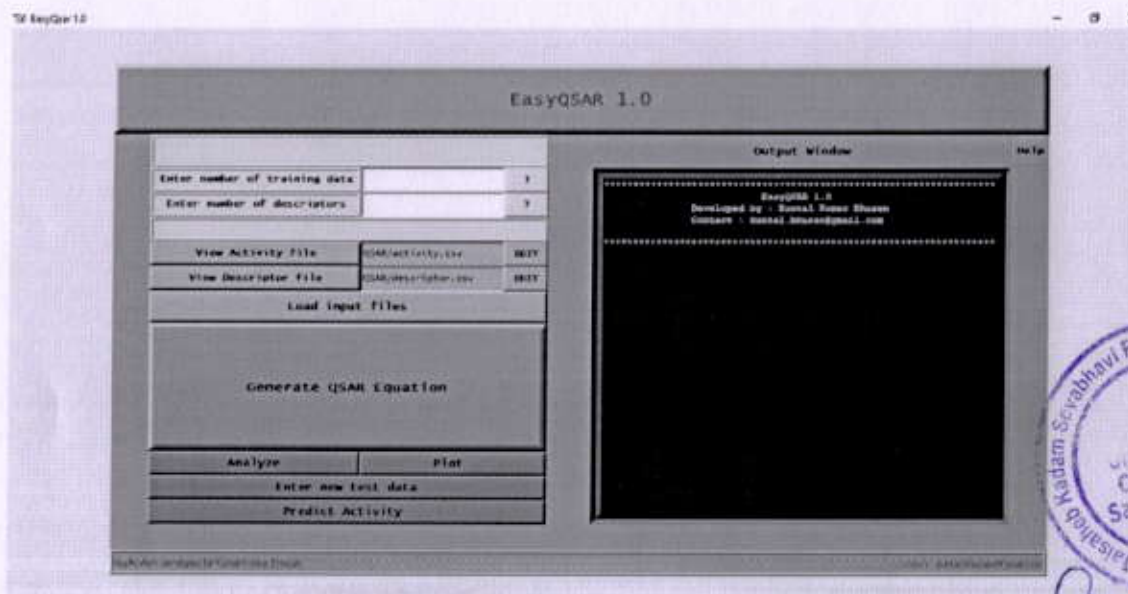
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AutoDock tools software for molecular modelling and in silico docking studies



EasyQSAR software for Quantitative Structure Activity Relationships

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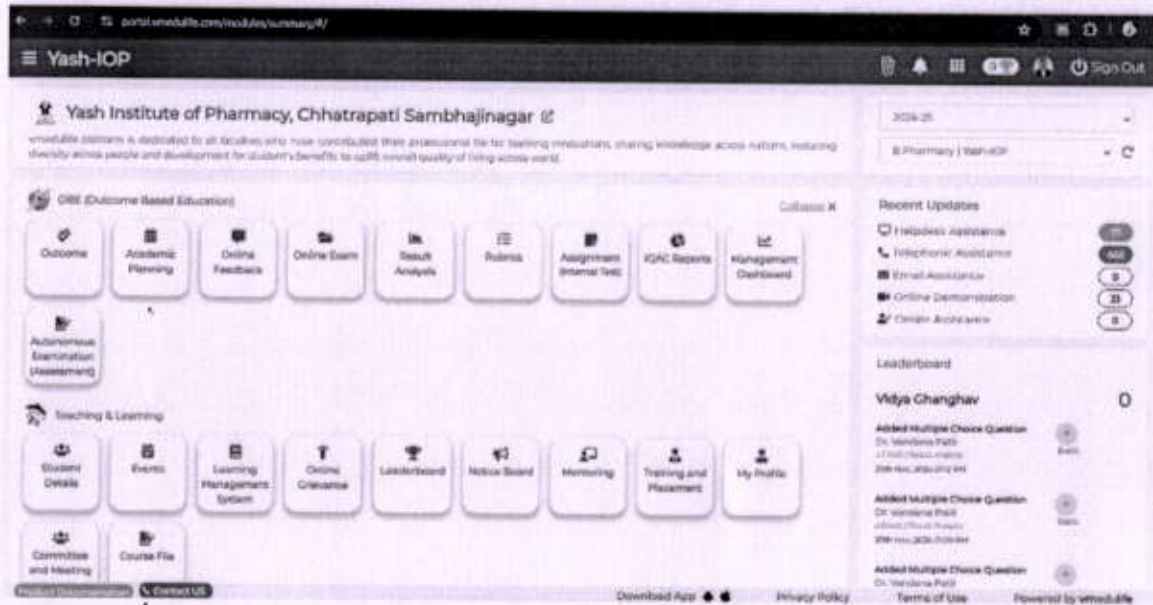


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VMedulife software for course file



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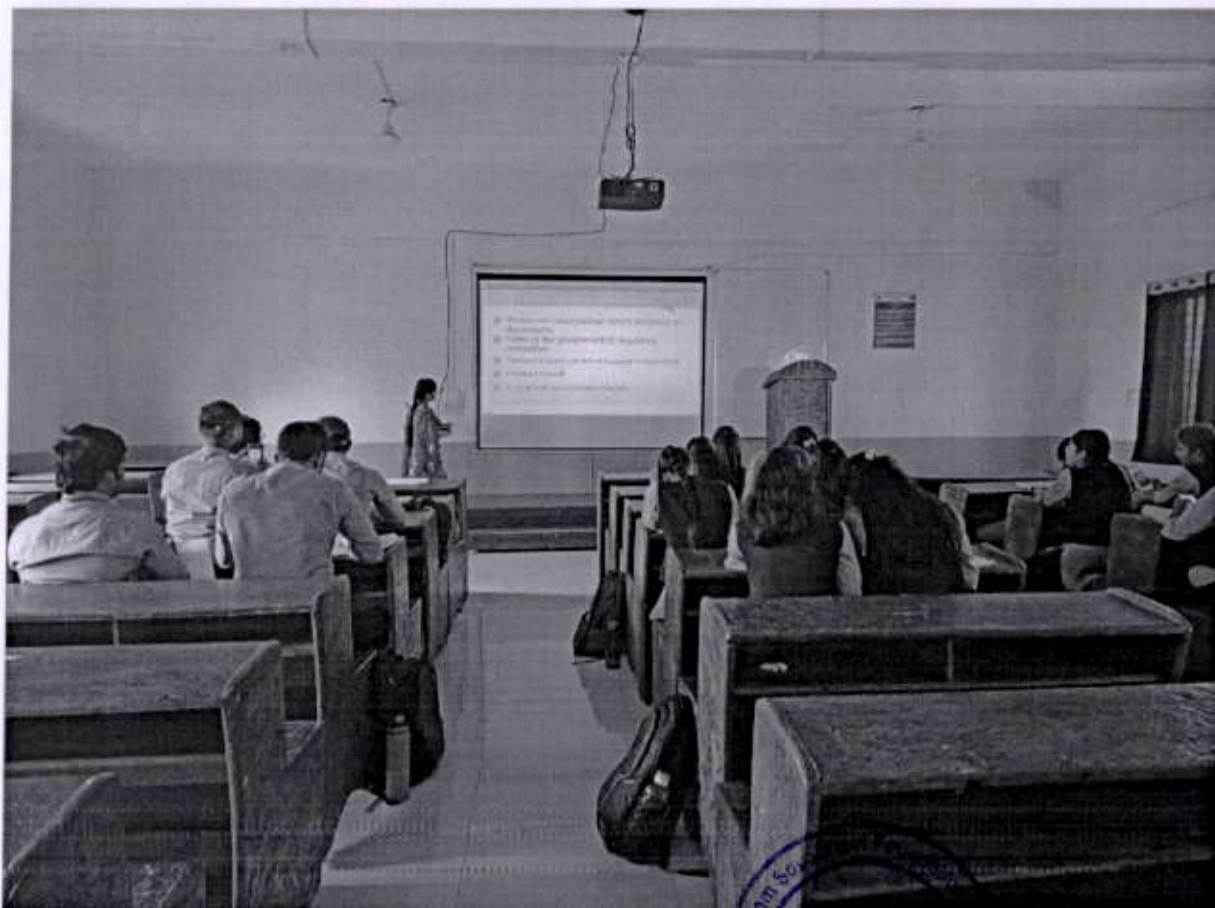
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USE OF POWERPOINT PRESENTATION:

All the faculty members use Power point presentation for delivering lectures in addition to classical chalk and board method. We also encourage the students to use PowerPoint presentation for giving seminars. To make PowerPoint presentation more effective and interactive, faculty includes pictorial illustration of concepts, flowcharts, animation and hyperlinks to you tube video.



Teacher's delivering the lectures by using PowerPoint presentation

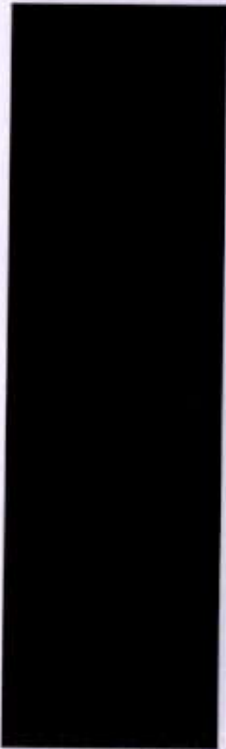


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BIOCHEMICAL TEST

IMVIC TEST SERIES



IMVIC TEST

- To identify or detect organisms present in the specific enzyme and nutrients.
- I = Indole test
- M = Methyl Red test
- V = Voges Proskauer test
- C = Citrate Utilization test
- The indole and citrate test detects the ability of bacteria to produce enzyme and nutrients.
- On other hand MR and VP test detects the final metabolic products produced by bacteria.

INDOLE TEST

- It is biochemical test in IMVIC series, which detects the ability of bacteria to produce indole as metabolic product.
- Some bacteria produce an enzyme Tryptophanase which help to metabolize the acid Tryptophan into indole, pyruvic acid, and ammonia.
- Kovacs reagent is used for determine the organism, for aerobic organisms.
- Ehrlich reagent used for anaerobic organisms or weak indole producing organisms.

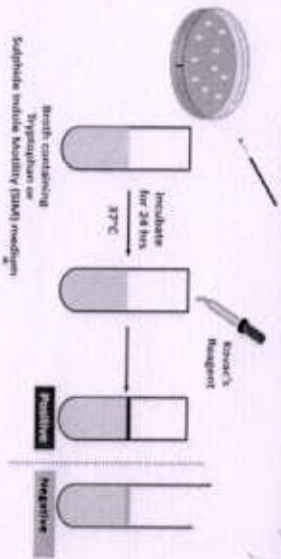
CULTURE MEDIA

- Tryptophan broth was generally used.
- Sulfide-Indole-Motility (SIM) medium widely recommended.
- Motility-Indole-Urea (MIU) media also preferred.



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PREPARATION



REACTION

- Tryptophan = Indole + Pyruvic acid + Ammonium

RESULTS

- The positive indicates the pink or red colored ring at the top of test tube when we added Kovacs reagent in it.
- The negative result indicated by the lack of color change in test tube after the addition of Kovacs reagent.



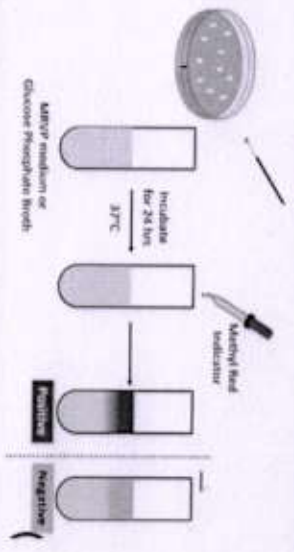
METHYL RED (MR) TEST

- MR test detects the ability of organisms to produce stable acids as metabolic end products of glucose metabolic acids.
- Some species of bacteria use the mixed acid fermentation pathway as their glucose metabolism process.
- This metabolic pathway it convert pyruvate into stable acid.
- When such acid fermenters are grown into the media containing glucose they will release the acids. Hence decreasing the pH of acid to 4.4 or less than it.
- When addition of indicator methyl red this acid fermenters it will turns mixture red.



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PREPARATION

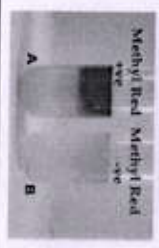


REACTION

- Glucose = pyruvate (mixed acid fermentation) = stable acid

RESULTS

- It positive when the culture medium turns red after the addition of reagent or indicator at low pH level 4.4
- It comes negative when the culture medium remain same as yellow, which occurs when the production of acid is less at the high pH level.



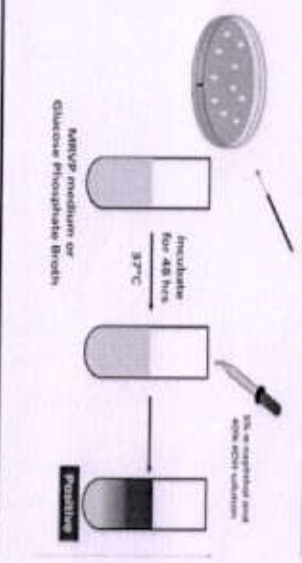
VOGES PROSKAUER (VP) TEST

- VP test is detects the ability of bacteria to metabolize the pyruvate into neutral intermediate product called as acetoin.
- Some bacteria produce acetoin as chief end product of glucose metabolism. If acetoin is present in the media it is oxidized to form diacetyl in presence of air and KOH. This diacetyl combine with alpha naphthol to produce pink red complex.



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PREPARATION



REACTIONS

- Glucose = pyruvate = acetoin + α-naphthol → diacetyl + creatine → pink red complex

RESULT

- Positive test is indicated by the development of red brown color after the addition of barritt reagent.
- Negative test is indicated by the lack of color change after the addition of barritt reagent.



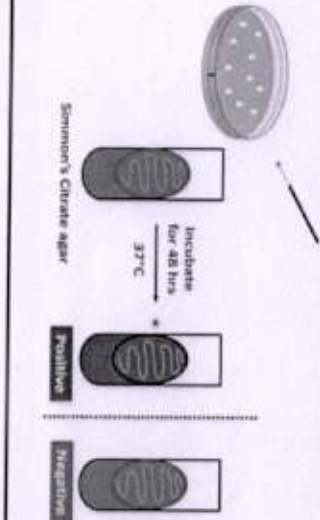
CITRATE UTILIZATION TEST

- Citrate utilization test is detect the ability of organisms to utilize citrate as sole source of energy.
- Some bacteria produce citrate enzymes which break the citrate into oxaloacetic acid and acetic acid. after that oxaloacetic acid will be decarboxylated to produce pyruvate and CO₂.
CO₂ + H₂O + Excess sodium = alkaline
- Additionally the released of CO₂ will trigger the metabolism of ammonia salt. Utilization of ammonium salt as source of nitrogen will cause ammonia.
- The combine effect of ammonia and sodium carbonate will increase pH.



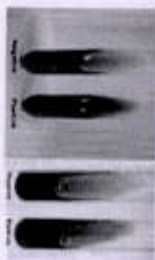
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PREPARATION



RESULTS

- In positive test, Growth will be visible in test tube and medium will be intense Prussian blue.
- In negative test, no growth visible and no color change.



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