

Timestamp	Name	Branch/Degree	GV Panel	Time Duration of GV	Questions Asked	Suggestions/Tips for Preparation
4/8/2015 13:04:31		Me 4th Year	A. K. Nath S Ghosh Moulick K Bhattacharyya P Saha (Ramanujan absent :D)	20-25 minutes?	<p>Definition of fluid</p> <p>Draw Mohr's circle of fluid under hydrostatic pressure</p> <p>Stokes hypothesis, stokes law of viscosity (could not answer this, was not taught this)</p> <p>Bernoulli equation, conditions for validity (steady inviscid incompressible etc.)</p> <p>Beam, beam column, column: what are they</p> <p>Physical interpretation of "critical load" for a column.</p> <p>Are there multiple critical loads mathematically?</p> <p>Free body diagram of a weird beam he drew.</p> <p>Difference between curved beam and straight beam?</p> <p>Draw MIG setup, give examples of inert gases other than helium argon</p> <p>Is electrode consumable in MIG, where is it not consumable?</p> <p>What electricity source is used in MIG?</p> <p>What is difference between cast iron and normal steel, percentage of steel</p> <p>How do you control surface finish in casting?</p> <p>How is grain size in casting expressed? Full form of AFS.</p> <p>Why is permeability of mould important, what is the problem with impermeable mould?</p> <p>Explain and draw time-temperature curve (slow cooling fast cooling pearlite bainite martensite)</p> <p>Crystal structures of iron (FCC BCC) martensite (BCT) etc.</p> <p>Difference between HCP and FCC.</p>	They did not ask for favorite subjects, only asked the subjects I have taken in this semester and the last one. Could answer most of the questions since they were quite simple, they give you hints if they are not satisfied with a particular answer. The absence of Ramanujan makes it a very friendly panel.
4/8/2015 13:23:51		ME BTech	SK Som SK Pal SK Dash MC Ray SN Bhattacharya(absent) S Deb(absent)	15-20 mins	<p>When I entered, SK Som asked me I have taught you some subject, which one? So, I said Heat Transfer. He became very happy and said I will ask you only from HT.</p> <p>What topics are you confident about? I said Fluids and ThermoD. (They asked me nothing from it)</p> <p>SK Dash - Why does heat get transferred? What is the temperature of the sun? \</p> <p>SK Som interrupted him and started asking on HT.</p> <p>A heat exchanger of concentric cross section has gas flowing in outer tube and fluid in inner tube. How can you increase the heat transfer rate by adding fins and where will you add them?</p> <p>What is the mode of Heat transfer when air flows on a hot plate.</p> <p>What is mode of heat transfer on the surface of plate? (Conduction).</p> <p>So, why there is no convection and only conduction?</p> <p>So, when moving air is flowed why does the heat transfer rate increase?</p> <p>SK Pal - You have drawn a hollow pipe there. How will you manufacture it? Some follow up questions on that along with diagrams.</p> <p>MC Ray - Formula of flexural stress. Explain each of the terms. Is the stress independent of the material properties? What assumptions were taken while deriving this formula.</p>	<p>S K Som will ask mostly conceptual questions.</p> <p>MC Ray will ask very easy ones. SK Dash doesnt ask much, though he tries to psyche you.</p> <p>Read all the panel subjects very properly. They dont always give you the option of favourite subject, as in my case.</p>
4/8/2015 13:33:11		mf	suman chakraborty, akc, ajay sidpara, sanjay gupta, r maiti	15 min	<p>what is the difference between using a gear hobbing machine for a pinion and its corresponding mating part?</p> <p>what is the governing equation of radiation in heat transfer?</p> <p>what is the cheapest way to machine(non conventional) a non conducting material?</p> <p>can water jet machining used for turning operation?if yes how?</p> <p>can a blind hole be cut using water jet machining ?</p> <p>why is negative rake used for carbide tools and why is it not used for low speeds?</p> <p>write governing equation showing positive rake id desirable ?</p>	no matter what you prepare they will always find a way to screw you . better prepare one or two topics thoroughly and if you happen to have good cg then "do justice to it" .

4/8/2015 13:43:27	B.Tech Mech	R. Bhattacharya, P.P. Bandhopadhyay, M. Ramgopal, Jinu Paul, Mihir Sarangi	15-20 min	<p>PPB: 1. What mechanism should you use to transmit motion between perpendicular shafts? Draw it. (Ans: Bevel gears) How to get clockwise and anticlockwise motion? (Use dummy gear in between to reverse motion) 2. How many gear boxes are present in milling machine? (Ans: 2) What are they? (Ans: Feed gear box, Speed gear box) Where are they located? 3. Draw milling cutter. Show orthogonal plane. 4. What is the normal range of feed in lathe?</p> <p>Jinu Paul: 1. Mention 5 uses of electrode coating in arc welding. (Ans: Slag formation, alloy formation, arc stabilization...??)</p> <p>Ranjan Bhattacharya: 1. What are poles and zeroes? (Ans: Roots of numerator of transfer function are zeroes, roots of denominator are zeroes) 2. What are the different methods used to find closed loop gain? (Ans: Routh array, Root loci, Nyquist plot) 3. In root loci method, what is gain margin?</p> <p>Ramgopal: Favorite topic in thermo? (I said IC engines) 1. What is Otto cycle? (Ans: Idealized cycle for petrol engine) Draw PV and Ts diagrams. 2. Why can't you use diesel in Otto cycle? 3. Which is more efficient-diesel or petrol engine? (Ans: Diesel) 4. Why does diesel engine produce higher torque? (Ans: Higher compression ratio, higher heat content in fuel. So more displacement during power stroke) 5. What is MPFI? (Ans: Multi point fuel injection) Can it be used in both petrol and diesel engines? (Ans: Petrol engine-MPFI; Diesel engine-CRDI) 6. What is the mechanism of fuel supply in conventional petrol engines? (Ans: Air and fuel mixed in carburettor and supplied to combustion chambers through fuel supply lines and valves) 7. Where are the valves located in combustion chamber?</p> <p>Mihir Sarangi: 1. What will happen if the front right tire of a car bursts while it is moving at a constant velocity? (Ans: The friction will suddenly increase there, while the remaining wheels will still be rolling. So it will skid clockwise about that tire.)</p>	Prepare basics from focus areas of all the professors in the panel. They will help you along and try to coax the answer out of you. You can ask for clarification if you do not understand terms in the question. If you cannot remember or do not know the answer, just tell them so. Relax and try to remember what you've studied. Take a pen with you.
4/8/2015 13:59:35	mf btech	A K NATH S GOUSH MALLIC K BATTACHARYYA P saha S ramanujan	15 mins	<p>types of robots grinder composition in Electro chemical Grinding About magnetic sputtering, why magnetic field few questions regarding thermo fluids.</p>	start preparing before 3-4 days look into basics of every topic. prepare according to your panel. All the best
4/8/2015 14:17:00	MF Dual Degree	S k Som (Chairman) S k Pal S k Dash M C Ray	10 mins	<p>M C Ray ->Formula of normal stress ->Questions related to buckling ->Tressca's criteria</p> <p>S K Dash ->How do you transmit power in the perpendicular direction ->And its real life application</p> <p>S K Pal ->Forward and Backward extrusions curves with explanation</p> <p>Som ->Difference between lead and pitch ->Use of lead screw in lathe</p>	<p>->Prepare subjects related to the panel ->MF students need not have to worry about thermodynamics, fluid mechanics and Heat transfer part ->Clear all the fundamentals of Mechanical engg - Details of Workshop processes (lathe, milling etc.), stress-strain curve, Bending moments formulas ->They won't ask you about derivations. ->They may ask simple questions - How does it rain, how balls swings etc.</p>
4/8/2015 14:21:48	Mech. B.Tech	R.Bhattacharya (chairman) Jinu Paul PP Bandhopadhyay Mihir Sarangi RamGopal	10 min	<p>J.P : Explain thermite welding with equation? PPB : What are Orthogonal Rake System parameters? MS : Draw Free Body Diagram of rear wheel of a 2-wheeler? RG : Explain how streamline body helps in Car's motion? RB : What is "added mass effect" ?</p>	Be confident and don't panic They know that we don't know everything... they expect us to have basic knowledge on the topics.. lastly enjoy GV its not that scary..

4/8/2015 14:32:42	MF B Tech	AKC, R Maiti, Suman Chak, Sanjay Gupta, MA Sidapara, K biswas	20min	<p>CGPA AKC: What are your future plans I was placed in a company which manufactures Hydraulic cylinders R Maiti: Basic questions on Hydraulic Cylinders AKC: How do u manufacture the internal surface of a Hydraulic cylinder(efficiency upto which level- atomic, nano or micro why so?) AKC: In which machine tool hydraulic cylinders are used, state a specific application and example AKC: why is the surface of the lathe machine bed rough Suman Chak and Sanjay Gupta did not ask any questions R Maiti: how do you maintain the cylindricity of a long Hydraulic cylinder, he did not allow me to answer, said you will anyways know when you start working :P</p>	As you see all my questions were related to the company i was placed in, know the company well, what do they manufacture, and some basics about how are the thing done in the company
4/8/2015 14:44:44	Mech (B.Tech)	Soumitra Paul (Chairman), Anirvan Dasgupta, S. Roy, C.D. Kalelkar, and V. Racherla P.S. This is one of the most peace panel, i must say, provided you get past the sh't Racherla throws at you.	25-30 min	<p>In which company are you placed? Whats my CGPA? Which subjects have you prepared for? To this I said MOS, and thermo-fluids.</p> <p>A. Dasgupta: Draw bending moment (BM) diag. of cantilever beam under its own weight Draw free body diag. of any section of that canti. beam and relation b/w shear force & BM C.D. Kalelkar showed me 2 snapshots of turbulent streamlines and asked me to infer which one had a higher Reynolds no. without any other info provided (Ans: just watch out for eddy patterns, the smaller ones denote higher Re due to instability) V. Racherla: What are the stress components at a point? (bit abstract for starters :P) Is stress co-ordinate dependent? If yes, then which components of stress are invariant to coordinate choice? Why is shear stress $T_{xy}=T_{yx}$? What are the failure theories? Express octahedral shear stress in terms of principal ones. Then some random questions (sh'tty part). Soumitra Paul: First of all, he saved my a\$\$ from Racherla :D #thanks Asked me some MTM questions like: under what condition uncut chip thickness is same as feed? (Ans: during pure orthogonal cutting) How does temp depends on principal cutting edge angle and qualitative reason behind it? S. Roy: He asked a GEM of a question :P He asked me to do a cost-based design study of supplying water to an entire hostel for a month and how to proceed for the design considerations! Talked about pump features, how sump side pipe should be thicker than delivery side pipe, typical dimensions of pipe and auxiliary pumps for failure situations..blah blah blah. Its hard to convince them whatsoever!</p> <p>Used a little bit of humour here and there....</p>	Bottomline: Peace maaro..and never fight back on a Prof... just lay low and use your humour if possible :) Best of luck! Start preparing 5 days well in advance (if possible)
4/8/2015 14:47:36	Mechanical Engineering, B.Tech	Prof. R Bhattacharya (Chair) - DOM, SysCon (Specializations) Prof Partha Pratim Bandopadhyay - MTM, Non traditional machining Prof Jinu Paul - Welding Prof Ramgopal - Thermofluids, Thermodynamics Prof Mihir Sarangi - MOS(mostly), DoME	20 mins	<p>Started with Prof. R Bhattacharya asking me about my favorite subjects - MTM, Welding, ATF and ThermoD. He asked about a topic I'm comfortable answering questions in DOM. I said Rotor Balancing. Asked a simple conceptual quickie. "How is rotor balancing of single rotor on a shaft achieved? Assume eccentricity"</p> <p>Next Prof Ramgopal. "Write down the equations governing the cooling down of hot coffee in a mug when kept open using 1st Law of ThermoD. Next, what are the 2nd Law implications of this process. <Ans: Lost work due to 'heat transfer across finite temp diff, irreversibility, exergy lost>." "Which cycle is used for powering aircraft and why, draw its components" <Brayton Cycle, Reason: Low weight to power ratio></p> <p>Prof PPB. "What are the 3 main parameters of machining" <Cutting Speed, Feed, Depth of cut> "Name one more parameter, not so important as the above three" <Coolant used> "What is a coolant generally constituted of, for machining" < Oil.> "Why?" <For lubricating effect></p> <p>The GV was going pretty cool when suddenly G.Chak (not in my panel list) came and started asking questions. "Why does a ship float in water?" <Buoyancy> All good until here. Then, "What is a metacentre" <Something related to buoyancy> "How is lift achieved in a solid cylinder. Write its governing equations and draw the streamlines", "What is a rankine body?" All mute. Next he told me to leave, not courteously though. :/</p> <p>Jinu Paul was not present at the time of my slot. Sarangi did not ask any questions.</p>	Prepare specific to the courses taught by your panel professors. Generally they do ask you about your choices and they get elated when it matches with their field. Furthermore, you can then expect questions from what you have prepared. Study 3-4 courses really well. For other courses, just a quick check of formula and specific laws would suffice.

4/8/2015 16:25:26	Mechanical/B.Tech.	Prof S.K. Som (Chairman) Prof. S.K. Dash Prof. S.N.Bhattacharya Prof.M.C.Ray Prof. Shankha Deb Prof. S.K.Pal	15 mins	<ol style="list-style-type: none"> Your favourite subject? Draw refrigeration cycle on P-H chart and explain the processes happening. Draw isotherms on the p-h chart. State Bernoulli's Theorem. State the conditions for its validity. How is it derived? What additional term has to be added, if we write Bernoulli's Theorem across different streamlines? What is an irrotational flow. Its expression? What is Extrusion? What are principal stresses? Why are principal stresses always real? How do we find the principal stresses? 	Prepare as per the 'characteristic traits' of your panel. Dress in formals. Carry a pen. Always keep a smiling face and if you do not know an answer to a question, confidently say "Sorry sir. I am not sure" For preparations, select any 2 subjects and prepare well for answering logical questions. Derivations, etc. won't be asked. You can expect simple and logical one liners.
4/8/2015 18:25:43	ME B.Tech	AKC Suman Chak R N Maiti Sanjay Gupta Ajay Sidpara	10-15min	<p>Suman: Zeroth law of thermodynamics R Maiti: Body on an inclined plane, inclination so that it won't slip R Maiti: Shear Force diagram of a transversely loaded beam Sidpara: Machining of non-conducting materials (NTMP) AKC: How will you drill a hole in a paperweight AKC: ECM polarity of the job and some follow ups</p>	Brush up the basics of all subjects.
4/8/2015 18:29:54	Engineering Entrepreneurship	panel no 7 mohanty, sk panda, m k das, lakkaraju, cs kumar	20-25 min	<p>What is a catalytic converter? Where is it used? How does it function? -mohanty bernoulli's equation, conditions for its application, streamline flow, how a bernoulli's equation is applied, potential functions -m.k das cs kumar- about edm and ebm, how to create a square shaped see through hole in a shaft, if you use ebm, how will you arrange the setup, where will you place the job, and how will you keep moving the workpiece to get the full square shaped hole, how does the surface under workpiece is moved in cnc machine, how a job is moved in milling machine. sk panda- if you are given a metal block, and you are supposed to create a pentagon head with square at bottom and half hexagon at top, how will you do that? which process will you use?</p>	There is not much you can do about this. I spent 2 nights and a day (no nighouts, or any other extra effort) for my whole preparation. Know the basic equations and some core concepts. It'll be good if you are able to drive the whole discussion around your strong topics. They will screw you anyway! All the best !!
4/8/2015 20:35:14	Mech/BTech	1.Ranjan Battacharya 2.Ramgopal 3.M Sarangi 4.Jinu Paul 5.P P Bandonpadyay 6.G Chak(Pseudo) He was present during my VIVA	15 Mins	<p>PPB : <ol style="list-style-type: none"> 5 machining operations Different types of grindings which we had done in lab which process is used to make a surface flat? RamGopal: <ol style="list-style-type: none"> COP of air conditioning equation of convective heat transfer Sarangi: <ol style="list-style-type: none"> derive equation for a pendulum bob G Chak: <ol style="list-style-type: none"> Newton's laws of motion Conservation of angular momentum ? </p>	Don't Panic - They will not ask you the questions from the things you have mugged up. Try to keep your cool. Prepare 2-3 topics of your interest so that you will get the guts to face the GV Panel :P.
4/8/2015 20:49:52	MF/B.Tech	A dasgupta, Racherla, Kalelkar, S paul	25mins	<ol style="list-style-type: none"> Have u been placed? :P Which company? What is the compensation? :P What subjects have you prepared for GV? (my answer was MTM , CFW, NTMP) Why have you chosen these subjects? You must have done some courses like RCCM, KOM, Thermofluids, Heat Transfer n all then why these three subjects? Twisted questions related to TIG, MIG, ECM, EDM. questions related to butt welding. Questions related to tool geometry and chip formation. 	They will ask u till your saturation point. :P Don't be panic. Stay calm. Be confident. Prepare atleast 2 subjects thoroughly. But I must tell u finally you will end up with nothing. Anyhow it is going to be worst. :P :P So chill!!! all d best!!

4/8/2015 21:25:11	Mechanical Engg./B.Tech.	B.Maiti A. Samantaray Abhijit Guha DKP ARC	35 min	<p>Show the rake, clearance and point angles of a single point cutting tool in a figure. Is grinding wheel a single or multi point cutting tool? What is its point angle? Why does a grinding wheel rotate faster than other machine tools? How many edges does a drilling tool have? What is a dynamometer? What are slip gauges and what are the range of lengths in which they come? Material removal mechanism in abrasive water jet machining. What is orthogonal cutting? Why do we study orthogonal cutting instead of oblique cutting? What is its significance?</p> <p>Draw PV and TS diagrams for Carnot cycle. Why don't we use Carnot cycle in practice? [Didn't accept any answers which had been taught in lectures!] What is Gibbs free energy? What does it represent and where is it used? What is Helmholtz free energy? Where is it used? What is Carnot efficiency for a cycle?</p> <p>Write the Navier Stokes equation. Is it linear or non linear? In case of low Reynolds number flows, can the equation be reduced to a linear form? How will you implement a time marching solution for this equation using some "alpha method"? [Never heard of any alpha method in CFD before!] What is Direct Numerical Scheme? Explain k-epsilon model in CFD.</p> <p>Consider a beam with a square cross section. Consider another beam of same cross sectional area but with an I-shaped cross section. What advantages does the one with I-shaped cross section have?</p>	No amount of preparation will help you with this panel. Good luck :)
4/8/2015 22:19:20	Mechanical/B.Tech	S Paul A Das Gupta S Roy V Racherla C D Kalelkar	20 min	<p>Working of IC engines (Petrol and diesel both). Otto and Diesel cycle (explain with pV diagram). What type of engine and fuels are used on ships. Difference in Ideal otto cycle and the one that undergoes in petrol engines. How to measure power output of an engine. The type of dynamometer in our lab.</p> <p>Difference in loading of a truss and a beam. Where to place Strain gauge on a cantilever beam to get the best possible readings and Why. Why hollow members are used instead of a solid one to make a beam. Is second moment of area and stiffness interrelated for a beam.</p> <p>Towards the end Kalelkar asked a puzzle What will not change if a ship inverts on water and is still afloat..... the answer is buoyancy.</p>	Prepare a major subject in all the three disciplines. Take your time and be cool.
4/8/2015 22:22:54	Mechanical/B.Tech	S Paul A Das Gupta S Roy V Racherla C D Kalelkar	20 min	<p>Working of IC engines (Petrol and diesel both). Otto and Diesel cycle (explain with pV diagram). What type of engine and fuels are used on ships. Difference in Ideal otto cycle and the one that undergoes in petrol engines. How to measure power output of an engine. The type of dynamometer in our lab.</p> <p>Difference in loading of a truss and a beam. Where to place Strain gauge on a cantilever beam to get the best possible readings and Why. Why hollow members are used instead of a solid one to make a beam. Is second moment of area and stiffness interrelated for a beam.</p> <p>What will not change if u invert a floating body..... the answer is buoyancy.</p>	Prepare a major subject in all the three disciplines. Take your time and be cool.
4/8/2015 23:12:59	Mechanical, BTech	Ashish Kumar Nath (Chairman), Partha Saha, Kingshook Bhattacharyya, Sandipan Ghosh Moulic, S Ramanujam(Absent)	10-15 minutes	<p>1.) Any two types of transform functions? (KB) 2.) What is natural frequency? (KB) 3.) What are the types of controls? (KB) 4.) In ECM what would you choose to find MRR Ammeter or Voltmeter? (PS) 5.) What is Hybrid Non Conventional Machining? (PS) 6.) Elaborate upon Laser assisted chemical etching? (PS) 7.) What are mechanisms of material transfer in fusion welding? (AKN) 8.) What is mechanism of Laser Conduction Welding? (AKN) 9.) Write Laplace for stream function? (SGM) 10.) What is Continuum? When does it happen? (SGM) 11.) What is ideal fluid? What is newtonian fluid? How do differentiate between fluid & gas? (SGM) 12.) On what material properties does diffusion length depend? (AKN)</p> <p>PS- This is NOT an exhaustive list, there were other questions too. Be prepared to answer 20 questions.</p>	They started with courses in last 2 semesters & went on with all the subjects they wanted to ask. So I had to face Systems & Controls, NTMP, CFW & Fluid Mechanics. It is advised that you go through the courses offered by the respective faculty regardless of your favorite subjects. Follow GATE Handbooks. And try to study 3-4 days well in advance. Try to answer as much as possible. Wear formals. (Suggestions specific to this panel only.)

4/8/2015 23:52:52	MF B.Tech	B. Maiti (Chairman) DKP ARC (absent) A Guha Samantaray	20 min	<p>What is your favorite subject? Answered NTMP Why is it still called non traditional when its being used for 40 years and how long are we gonna keep calling it non traditional? Give two examples of jobs which can be done only with non traditional process and not the conventional process? How is a paperweight made? How do we get the design present inside a paperweight? Is it conventional? How can we cut glass? How can laser of only 100W drill through a job whereas a bulb of 100W doesn't harm us? Why is laser said to be stimulated emission? What is the working principle of EDM? What is the polarity of the job and the workpiece? What is the polarity in the case of arc welding? What are the typical values of current and voltage used in arc welding? In a concrete beam, where are the steel reinforcements put? Towards the bottom, middle or towards the top? Why so?</p>	For manufacturing students prepare general subjects like NTMP, MTM, RCCM, DOME and Stress Strain relations. Just get a general idea of things, no need to go into details. Make sure you prepare as per the subject specializations of the panel. Dress well, maintain a smile, don't worry about questions you can't answer, as you will find that most of the people around you are on the same boat and can answer only a handful of the questions asked to them. Keep your mind open, and even if you don't know an answer just try to answer it logically based on real life experiences. Cheers and all the best!
4/8/2015 23:53:21	MF Dual Degree	AR Mohanty (Chairman) SK Panda MK Das R Lakkaraju CS Kumar (absent) K Ray (absent)	15-20 min	<p>AR Mohanty: what is DOF, Mechanism, Rigid Body, revolute joint, prismatic joint, spherical joint (one after another)? what is machine? What is the first law of thermodynamics?</p> <p>SK Panda: why don't the spokes of bicycle wheel buckle or bend and how those spokes are manufactured? difference between drawing and extrusion. strain hardening related questions.</p> <p>MK Das: Draw stress strain diagram for Mild steel and explain? (then SK Panda followed up with some questions regarding same)</p>	Go on time and take a pen with you Don't stress out much be thorough with basics of the subjects taught by panelists and 1-2 extra subjects keep calm and smiling face during viva
4/9/2015 10:54:18	Mechanical Dual	A Mohanty, MKD, Panda, CSK	25 min	<p>Draw BMD and SFD of Cantilever beam; Stress strain dia of mild steel; How Reynolds number was derived and what it signifies; Explain Buckingham Pi Theorem; Whats DoF, how to calculate it;</p>	If CSK is in your panel, say you like Kinematics, he will ask you the simplest questions of Kinematics! If you don't know something, say you don't know it. And try not to laugh in your own GV :P
4/9/2015 13:32:58	B.Tech Mech	B. Maiti (Chair) ARC DKP A K Samantaray Abhijit Guha	30-35 mins	<p>B maiti:- (started off by asking which subjects I am comfortable with and what's my BTP on) Difference between k-epsilon turbulence model and DNS model (pehle ball pe hi bouncer) Write the full Navier Stokes equation and describe all the terms What modification needs to be made if the fluid is compressible? What are the characteristics of a potential flow and what changes have to be made to momentum equation for a potential flow? Why is it not used in a pipe flow modelling, what discrepancies would rise up? Sodberg Equation and its use Derivation of pressure difference in an U-tube manometer column filled with multiple fluids Whats the difference between compressive stress and bearing stress in a machine element, even though they have very similar cause why are they named different? DKP:- Gear and Pinion design, which one is made of weaker material and why? Types of failures in the Pinion, and which type of failure occurs first in the pinion, why is shear failure of pinion hazardous? Abhijit Guha:- FTCS scheme, explicit and implicit methods Stability of full transport equation involving advective and diffusive terms when discretized by FTCS scheme How is artificial viscosity used to stabilize the instability witnessed in FTCS schemes When you stir a cup of tea with floating tea leaves, they all collect at the center when the system comes to rest, in contrast to outward motion in a centrifuge, why? Follow up question, show it mathematically using vorticity vector and phenomenon seen in whirlpools or tornado ARC:- Different Methods used for manufacturing a gear On an industrial scale, which equipment is used commonly, gear form milling machine or gear hobbing machine, why? If profile accuracy of the gear tooth is of utmost importance and not the flexibility of the process which would be a better choice, gear form milling or gear hobbing machine and why? this was a follow up question by Prof DKP Can you generate a plane surface on a lathe machine? A K Samantaray:- He was not present during my Viva</p>	Although I had mentioned that my field of interest was fluid dynamics and thermodynamics, they did not even venture into the domain of thermodynamics. Half of the questions were from Fluids and CFD, rest were from Design and Manufacturing. So I suggest you learn at least basic concepts in design and manufacturing processes included in the laboratory courses. Since I answered most of the questions related to fluids and CFD comfortably, they skipped Thermodynamics and went ahead to design, to check how I behave out of my comfort zone. So be prepared for questions from the core subjects which you may not be comfortable with. ARC and DKP are the guys who will be giving you a bit of space to breathe, while Prof Maiti and Guha, will make sure that you are always on your toes, so be alert all the time. Sometimes they challenge your answers even if the answer you gave was right, to check whether you actually know the concept well or not, so be confident about the stuff you know and don't change your answer just because they asked 'are u sure?' And finally study about the stuff from your BTP. The very first question caught me off guard and such an event could tilt the whole viva against you, making it an ordeal.

4/9/2015 13:55:21	Mechanical Engineering	S.K Som, S.K Dash, S.K Pal, M.C Ray	20 mins	<p>1. In turbulent and laminar pipe flows, if dp/dx is proportional to v^n, then what is the value of n for each flow? Derive the result considering friction factor f is almost constant for turbulent flow and f is proportional to $1/Re$ for laminar flow. (S.K Som)</p> <p>2. Write down the first law of thermodynamics for an open system. (S.K Dash)</p> <p>3. Give an example of a mechanism which converts translational motion into rotary motion. What are principal stresses? Why do we always get real values of principal stresses when we solve the equations for the same? What condition imposed during derivation of stress tensor makes it symmetric? (All of them by M.C Ray)</p> <p>4. Give an example of a machine which uses a worm and worm-wheel arrangement? (S.K Pal)</p>	If you decide to prepare for GV, just go through the basics of the fundamental subjects. In case they ask you difficult questions look down and pretend to think. Try to keep quiet for some time and then say you don't remember. If you can answer the very simple ones, at least they will not grill you.
4/9/2015 20:12:07	B.Tech (Mechanical)	Prof.A.K.Chattopadhyay Prof.Suman Chakraborty Prof.R.N.Maiti Prof.Sanjay Gupta Prof.Ajay Sidpara	10-12 minutes	<p>Prof.Suman Chakraborty : What is "Exergy" ?? What is "Reversible work" ?? Prof.Sanjay Gupta How do you design a shaft ?? What are the considerations while you design a shaft ?? Questions about stresses , loads , some formulae ?? Prof.R.N.Maiti : Differences between Shaft and Axle !!</p>	If this is your panel ... Prepare your subjects according to the panel... You may think Prof.A.K.C taught us MTM so they will definitely ask us from MTM. But , Mechanical students may not be asked questions from MTM. I mean probability is less!! But , prepare MTM also , they might ask. Expect questions from Thermal stream from Prof.Suman Chakraborty. Expect questions from Design stream from Prof.Sanjay Gupta and Prof.R.N.Maiti. The way they treat you will depend upon their moods really !! Watch out for some surprise questions !!
4/9/2015 22:20:14	B.Tech. MF	B Maiti DK Pratihari AR Chowdhary AK Samantary A Guha	20 min	<p>Function of cope and drag and how is core used in foundry Magnus effect Shaft design and stresses involved MTM funda and Merchant circle diagram Beam design Surface coating (related to BTP)</p>	Prepare the fundamentals from each subject Choose at least 2 favorite subjects and prepare a little bit Application based GV
4/10/2015 18:15:24	MF Dual	S K Som, S K Dash, M C Ray, S K Pal	10 Min	<p>They asked Favourite Subject, I said thermodynamics and Heat Transfer As a manufacturing student they asked very simple questions on these topics S K dash: How heat is transferred in pan through the stove. What are the forms of heat transfer S K Som: Write clausius inequality and biot numbers and its physical interpretation. S K Pal. Draw the graph of stress-strain curve of totally plastic deformed object.</p>	Just prepare one subject in some depth. They will ask some basic and depth question from your favourite subject. Don't prepare questions of GD. Questions never gonna match. Be relax. Try to answer as much as possible. They will give you hint.