Abdus Salam: Profile of a Nobel Laureate | Motivating the Disabled

Salam's death, on November 21, this year in Oxford, the hub of his scientific career, though not premature. must be construed as a tragic loss to the scientific community of the third world countries. Born in a middle class family in Jhang, Punjab in 1926. Salam rose to eminence in life through his commitment to physics and far more through his efforts towards the internationalisation of science, epitomised by the creation of International Centre for Theoretical Physics at Trieste. Italy. With a burning concern, fired by his own unhappiness at having to leave his country for want of funds and opportunities for higher research. Salam was always trying to find ways for those like him to continue working for their own communities. What him". Professor Salam had envisioned was that there could be no permanent dominance in science by a single nation and that scientific thought and its

creation was the common and shared heritage of mankind. Salam's greatness lies in the fact that he was able to bring about a synthesis between science and religion. In physics, Salam was mostly involved with symmetries as he says, "That may come from my Islamic heritage for that is the way we consider the universe created by Allah with ideas of Societal norms at that time beauty and symmetry and harmony, with regularity and

cover and interpret the revelations made through the "Quranic Suras" in respect of nature and its bounties. A highly meritorious and intelligent student of the day. Salam did not drift to Civil Service, the choicest job in those days in Pakistan. He took a mathematics degree from Lahore, won a unique scholarship to Cambridge and while there

"drifted into physics."

without chaos". Salam often

said, "The Quran plays a lot of

emphasis on natural law and

we are trying to discern, dis-

Salam did not come of an affluent family. The way Salam got the scholarship was to him "something of a miracle." During the second world war, many Indian politicians wanted to help the British war effort. One of them collected a fund of about 15,000 pound sterling but the war ended abruptly. With that fund, he instituted five scholarships and Salam was selected for one of these. The other four scholarships could not be availed by anyone since the sudden death of the donor brought about a change in the mind of his successors and the scholarships were cancelled. What Salam had told about science some years before. still holds true. "Opportunities are so sporadit in the third world that the man who is absolutely a top guy may not get a chance. There is everything against doing science as a profession, it is poorly paid, very little endowed, it carries no influence or status in a statusconscious society.

In Cambridge, Professor Paul Matthews gave Salam an important problem on "meson" theories. In about five months Salam solved the problem that contributed to renormalising the meson theories and he was awarded Ph D. After the Ph D degree. Salam took up a teaching job at the University of Pun-· jab in Lahore on an yearly salary of 700 pound sterling There was no tradition of doing any postgraduate work or research nor were there any journals enabling him to stimulate his knowledge nor any opportunity of attending any confer-

The head of the institution. Salam was serving, told him to forget about research. He was

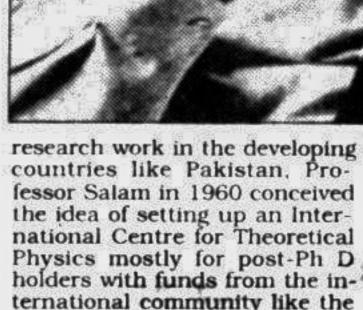
In writing an epitaph for professor Salam, it is relevant to recall what Al-kindi wrote about 1130 years ago, "It is fitting for us not to be as hamed to acknowledge truth and to assimilate it from whatever source it comes to us. For him who scales the truth there is nothing of higher value than truth itself, it never cheapens nor abases

A tribute by Md Asadullah Khan

given a choice of three jobs, for any spare time he might have after teaching duties: Bursar. warden of a hall of residence, or president of the football club Salam chose the football club.

worked against any continuation of research work in physics. Salam was faced with a stark dilemma of a choice between physics and Pakistan This time Salam had opted for physics and returned to Cambridge and took up the job of starting the department of Theoretical Physics in the Imperial College, London. In 1957 he was appointed full professor. Salam threw himself passionately into physics inventing the two component theory of the "neutrino", working on particle symmetries and in particular "gauge theories" with the objective of bringing about unification of weak and electromag-

netic forces as a goal. With the passionate desire burning in him to fill a void in



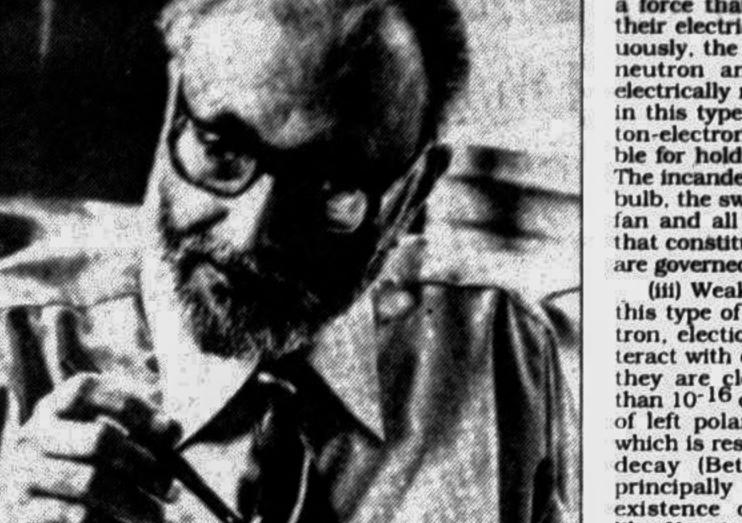
The centre so set up till now works as an epicentre allowing opportunities for the scientists in the realm of physics, mathematics and electrical engineering to get the latest scientific news, to learn the latest techniques and refresh their ideas about the physics of the day while spending bulk of their time teaching in the home countries. Salam ultimately convinced the (International Atomic Energy Agency) to take up the charge of the centre.

child the ICTP (International Centre for Theoretical Physics) has expanded over the years



IAEA Professor Salam's brain-

from fundamental physics to



physics of the day suited to the needs of the developing countries with emphasis on solid state physics that helps orientation and development in the industrial sector of the developing countries. True to every body's expectation, ICTP is now stressing research in physics of solids, plasma physics, physics of Oceans and the Earth, applicable mathematics, physics of technology, of natural resources together with physics of the Professor Salam, in the

words of Professor Ziman, a luminary in SSP (Solid State Physics) in the contemporary world, is a man who has dedicated his life to the principle of unity — the unity of nature and the unity of mankind. The various interactions of elementary particles that Professor Salam has seen as a natural philosopher have been interpreted as nothing more than diverse aspects of a single primary force. As a political and moral leader he has demonstrated that various interactions of nations and cultures are no obstacle to the brotherhood of man in science. Professor Salam was

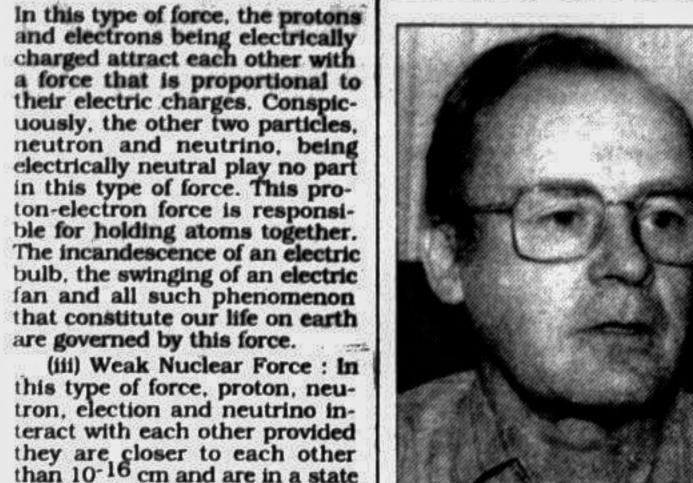
awarded Nobel prize for his

epoch-making theory in the

unification of electro-magnetic and weak interaction that had bedeviled Einstein and in which field namely the "Unified Field Theory" he devoted himself during the last twenty-five years of his life. What Einstein wanted was to unite Maxwell's electro magnetism with Newtonian gravity in the same way that Maxwell had titlifed electricity and magnetism. His proposition stated in a simpler form considers all matter, we see around us, to be made up of four building blocks - four basic particles, the proton (P) and the neutron (N) and the two so called light particles the electron (E) and the neutrino (3) the clusive particle having no mass. There are four basic forces which govern the behaviour of these particles when they come close to each other These four forces are : (i) Gravitational Force. (ii) Electromagnetic Force. (iii) Weak Nuclear Force. (Iv) Strong Nuclear Force. (i) The Gravitational force

that constitutes four particles proton, neutron, electron and neutrino and in which the particles attract each other with a force which is proportional to their mass, controls the planetary motion, motion of the galaxies and stars right up to the falling of a mango from the

(ii) Electro-magnetic force :



(iii) Weak Nuclear Force : In this type of force, proton, neutron, election and neutrino interact with each other provided they are closer to each other than 10-16 cm and are in a state of left polarisation. This force which is responsible for Beta (6) decay (Beta-radioactivity) is principally responsible for the existence of heavy elements like Uranium, Radium etc. on earth.

(iv) Strong Nuclear Force : Protons and neutrons carry strong nuclear charge (in addition to the weak nuclear charge). These particles attract each other strongly when they tend to be closer than 10⁻¹³ cm. This strong nuclear force is responsible for holding the nucleus of Lithium (Li). Berrylium (Be), Carbon (C) and Uranium (U) etc. together. The phenomenon of fusion responsible for making the sun shine, and fission working in a nuclear reactor that provides electricity in this power starved world, are aspects of this force.

Just as Maxwell and Faraday had shown that the seeming distinction between electricity and magnetism depended on whether electric charges producing these forces were stationary or in motion, in a like manner physicist Salam had hoped that he could unify the four seemingly distinct forces into one single basic force of which the four known ones are different facets. Einstein had wished to see a unification of gravity and electro-magnetism as aspects of one single force. Simply stated. Einstein wished to unite electric charge with gravitational charge (mass) into one single entity.

In writing an epitaph for Professor Salam, it is relevant to recall what Al-kindi wrote about 1130 years ago, "It is fitting for us not to be ashamed to acknowledge truth and to assimilate it from whatever source it comes to us. For him who scales the truth there is nothing of higher value than truth itself, it never cheapens nor abases him". In the spirit of Al-kindi, we must express our deepest indebtedness to Professor Salam regardless of the consideration of the country. faith and sect he belonged to. Sadly true, the developing

countries like ours are miles

apart from the road to science. It stems from our lack of at taching topmost priority to acquisition of knowledge and its dissemination through the community. In an effort to break the scientific isolation of the developing countries and internationalise science. Professor Salam launched an effort to establish the first International Centre in a scientific discipline with a view to increasing the size of high level scientific manpower and breaking their isolation. Salam succeeded in ending the loneliness of such people working in the academically underdeveloped countries. Scientists from all parts of the world gather in Trieste for some months to "plug in" to the current excitement of physics, sample the latest ideas and most importantly, meet the world leaders in the subject. The scientists seize this opportunity as a time for renewal, an opportunity to communicate with kindred spirits.

ULIAN Francis has been following the development of Bangladesh for the last 25 years. Tracing his links with Bangladesh, he recalls that in November 1971 he was responsible for a large refugee relief programme in eastern India in the border states between what is now Bangladesh and India, covering about half a million refugees from Bangladesh. "We were assisting with child nutrition. health programmes, and sanitation in the camps. At that time, people were worried as to how long the relief situation would continue because winter was upon us and we were busy procuring warm clothes and blankets. The blankets came from both India with relief funds collected in the UK and many other countries. People in the UK were responding to a campaign to take a blanket off their bed and donate it to Oxfam, the organisation that I

worked for at that time.

Tracing his relations with

Bangladesh, Francis continues "After that initial visit in '71 during which I sensed a feeling of great hope for the future. visited Bangladesh a number of times from Delhi, where I was working at that time for Oxfam. and gradually saw how things were developing in terms of not only rehabilitation after the very serious situation in '71, both from the point of view of government programmes and the dramatic increase in the number of non-government organisation, many of which Oxfam was associated in their inception. The NGOs such as BRAC and Gono Shastra Kendro were just two of the organisations, which Oxfam supported in the earlier days after Liberation. Later on, in my development career, I came to live and work in Bangladesh from '85 to '92 for a Canadian organisation called CUSO, which was involved in assisting small orsmall land owners or landless people and also, with some CUSO initiatives, 10 years earlier, the organisation 'Proshika' developed and it is a large organisation today

"During my stay with CUSO not only was I interested in the agricultural development and also because of the regular disasters, particularly floods, I was interested in innovative schemes with aftermaths of floods and cyclones. I also became deeply interested in the problems of the people who are among the most disadvantaged in the world. These are people with disabilities, who, by and large, not just in Bangladesh, are excluded from the mainstream development programmes. They are often excluded because it is difficult to know how to include them, and difficult to know whether there is any potential for their development and how they might become self-supporting. However, people with disabilities have the same rights as anybody else

"Although there are no country-wide accurate statistics about the level of disability in Bangladesh, from a few recent sample surveys it is estimated that approximately 5 per cent of the total population have moderate or severe disabilities. The way forward to improve the lives of these people is through community development project".

Interview with Julian Francis, a British development activist, by Fayza Haq

and this includes all disabilities: the right to education, training and work the right to live in your own community and have a say in how your life will be organised. These are part of the human rights that should be available to all peo-

He adds about the disabled. "Traditionally, all over the world — until very recently disabled people were supported by charity and welfare pro-grammes rather than by development programmes. There were only a few enlightened people in different countries who were able to help the people with disabilities, be they physical visual — hearing or speech impairments or learning difficulties (where people are classified as mentally handicapped). "Given appropriate educa-

tion and assistance, given aid appliances and housing, people can become self-supporting, useful and productive members of society. The situation of people with visual impairment was ahead of development of people with other disabilities. They have made great strides and they have been able to go through their education with the assistance of Braille and tapes. It is the other disabilities, particularly the people with orthopedic handicaps or mental short-comings who are very much isolated and stuck in the home of their parents. This is a great challenge in a country where the resources for this field from government and non-government are very scarce.

Francis continues with his experience, "When I was in Bangladesh in the late eighties and nineties, I came in touch with a number of organisations working an disability issues and encouraged them to come together, speak with one voice, to raise awareness amongst other people who are non-disabled people and get a programme of advocacy explaining to the government that much more work can be done in the field of disability, also campaigning with donor organisations - both government and non-government — to encourage them to include people with disability in their development programmes.

Dwelling on the theme of disability and how the disabled can be made more independent and productive. Francis says, "People's attitudes and how they see people with disabilities takes a long time. Disabilies, even now, in my own country, Great Britain, are often seen as a burden on both family and society. But at least in the richer countries there are a number of financial schemes available to assist the families and individuals with disabilities to pursue a career etc. It has taken, many years in the West and things can't change overnight in countries that do not have so many recourses. However, in recent years, there have been significant developments in Bangladesh and now the government, through the Ministry of Social Welfare, are taking disability very seriously

and a national policy has already been adopted by the parliament and the relevant legislation is coming forward pretty rapidly. This work is done with committees which include not only representatives from many ministries but also representatives from NGOs representing all types of disabilities That is an encouraging sign but whatever plans they put into place for this section of the population need the financial resources, and that's where bilateral and multilateral donor organisation can play a leading part. This is not only with the financial side but with a lot of encouragement and technical expertise from other countries.

Talking about the level of

awareness about disability in Bangladesh, Francis says, 'The level of awareness is not very great. This can be tackled in a number of ways. The most obvious place is to start with the children If children are excluded from regular education they are being deprived. The children who do not have disabilies are not sensitised that there are other friends in the community who can compete academically if not physically in most areas of education. The government must look hard about the integration of children with disability. BRAC schools have taken an initiative to include children with disabilities. Advice will be required for the teachers. There is a lot of expertise in the area and this should be called on. Short courses should be run for the teachers so that they know how to handle things. There should be a lot more done particularly in places away from Dhaka. If there is a will a way can always be found." Francis continues about the

people who in many ways maybe forgotten, "Although there are no country-wide accurate statistics about the level of disability in Bangladesh from a few recent sample surveys it is estimated that approximately 5 per cent of the total population have moderate or severe disabilities. This means approximately 6 million people The way forward to improve the lives of these people is through community development project this involves a lot of awareness raising and should include the total community. involving just the disabled is counterproductive as this further regrets them. The needs and the rights of the disabled should be understood. The disabled can be helped to become more confident and self-supporting. This involves the school teachers the political leaders, government officials, religious leaders in this community development programme.

"Often all you have to do is give a tweak, a prod or show a light and people with disabilities can make a great leap for-

Julian Francis was in Dhaka in November to conduct a workshop on disabilities at ICDDR.B.

The Daily Star Entertainment Guide

Tuesday 3rd December (All programmes are in local time. There may be changes in the programmes.)

BTV

3:00 Opening Announcement Ai-Quran Programme Summary 3:10 News in Bangla 3:15 Patriotic songs 3:20 Recitation from the Geeta 3:25 The Album Show 3:50 Cartoon film 4:15 Unmesh 4:50 Coach 5:00 News in Bangia 5:25 Sangeeta 6:00pm National Television Debate Competition 6:50 Open University 7:00 The News 7:25 Silver Jubilee of Freedom Fighting —A Documentary 8:00 News in Bangia 8:25 Silver Jubilee of Freedom Fighting Mujibnagar Govt 9:00 Drama Serial 10:00 The News 10:25 Those days of Freedom Fighting 10:30 Sur Lahane 11:30 News in Bangla 11:35 Wednesday's programme summary 11:40 Close down

$\mathsf{B}\mathsf{B}\mathsf{C}$

6:00am BBC World News 6:10 Newsnight 7:00 BBC Newsroom inc World Business Report/Asia Today/24 Hours 10:00 BBC World Headlines 10:05 World Focus. Panorama 10:45 The Panel 11:00 BBC Newsday 2:00 BBC World News 2:15 World Focus Panorama 3:00 BBC World News 3:30 Time Out. Tomorrow's World 4:00 BBC Newsdesk 6:00pm BBC World News 6:15 World Focus: The Money Programme 7:00 BBC World News 7:15 World Business Report 7:30 BBC Newshour Asia & Pacific 8:30 Time Out: The Travel Show 9:00 BBC World News 9:15 World Focus: Panorama 10:00 BBC World News 10:30 Time Out Top Gear 11:00 BBC World News 11:30 Time Out: Film '96 12:00

The World Today 2.00 BBC World Headlines 2:05 World Focus Panorama 2 45 The Panel 3:00 BBC World News 3:30 Time Out The Ciotties Show 4:00 BBC World Report World Business Report 24

CHANNEL V

6:30am The Ticket 7:00 Rewind V. Sophiya 8:00 Frame by Frame 9:00 Jump Start vij Alessandra 10:00 Frame by Frame 11:00 The Vibe Vulluke 12:00 Rewind Vu Sopniya 1:00 By Demand VJ Trev 2 00 Frame by Frame 2:30 First Day First Show 3:00 The Indian Top 10 4:00 Planet Ruby 4:30 Big Bang VJ Alessandra 5:30 Rewind VJ Sophiya 7:00pm By Demand VJ Trey 8:00 First Day First Show 9:00 The 1996 Channel Music Awards 11:30 The Ride 12:00mn Over The Edge VJ Sophiya 12:30 Big Bang VJ Alessandra 1:00 Haysan 2:00 By Demand VJ Trev 3:00 Big Bang VJ Alessandra 4:30 Bill Board US Countdown

STAR PLUS

6:00am Home and Away 6:30 The Sullivans 7:00 Aerobics Oz 9:30 Star News 10:00 Some

Bold & The Beautiful 12 00mn Santa Barbara 1 00 Baywatch 2:00 Dynasty 3:00 Quincy 4:00 The Opran Wintrey Show 5:00 Barnaby Jones

Mothers Do Ave Em 10 30

Beverly Hills 90210 11 30 The

From Ho Shi Minn City Highlights 2:30 Hilton Chinese Futbol Mundial 4:30 Asia Road Squash Super Series- NY

Style 7:30 Star News 8:00 Sky News 8:30 Star News 9:00 Sky News 9:30 Aerobics Oz Style 10:00 Yan Can Cook 10:30 E TV 11:00 Kate & Allie 11:30 The Oprah Wintrey Show 12:30 The X Files 1:30 Santa Barbara 2:00 The Bold & The Beautiful 3:00 Khandaan 3:30 Imtihan 4:00 Home and Away 4:30 Lost in Space 5:30 Adventures Of Black Staffion 6:00pm Kate & Affie 6:30 Yan Can Cook 7:00 Mastering The Internet 7:30 Star News (Hindi) 8:00 Small Wonder 8:30 The Bold & The Beautiful 9:00 Meri Awaz Suno

STAR SPORTS

7:30am Asia Sport Show 8:30 Vietnam Open 1996 Final Day Vietnam 12 00 Trans World Sport 100 N'A Tour Championships From New York 2nd Semi Final 2:00 1996 Omega Tour Filler Programme 3:00 muton Chinese National Basketball League 96-97 Army vs Shanghai 4:30 The Volvo Women's Open Of Thailand From Dusit Resort Pattava Thailand 6:30 Futbol Mundial 7:00 Asia Road Facing Champs Thaiaind 8:00 Watersports World 9:00 Casio World Open H/Ls 10:30 Squast Super Series fournament Of Chamionship New York 12:00mn Prime Boxing 1:30 Thai Kickboxing National Basketball League 96 '97 Army Vs Shanghai 4:00 Racing Champs Thaiaind 5:30 WTA Tour Championships From New York 2nd Semi Final 6:30

STAR MOVIES

7:30am Classic Flying Deuces PG (Arabic Subtitles) 9:30 Cornedy Movie Movie 12 (Hindi Subtitles) 11:30 Family : Lucky Luke Ballad of the Daltons PG (Hindi Subtitles) 1:30 Musical Help! 12 3:30 Film Club Mr Wrong (Arabic Subtitles) 5:30 Comedy Based On An Untrue Story 15 (Hindi Subtitles) 7:30 Adventure Born To Run 15 (Hindi Subtitles) 9:00 Hollywood 1 On 1 9:30 Action: Live Wire 18

Hindi Subtitles, 11-30 Thriller Lethal Firot 18 Arabic Subtitles 1 30 Rumanice The Plano 15 Arabic Sublities) 3:30 After Dank Stripped To Kill 18 (Arabic Subtitles) 5:30 Classic Nosteratu PG (Silent)

ZEE TV

6:00 The News 6:30 Jagran 7:00 A to Z Computer 8:30 Hum Honge Kaamyab 9:00 Insight 9:30 Gaane Anjaane 10:00 Namaste Iridia 10:30 Umeed 11:00 Close Up Antakshri 11:30 Nirma Aaha 12:00 Tol Mol Ke Bol 12:30 Mr Mintgo 1:00 A to Z of Computer 1:30 Asian Sky Shop 2:30 Raahaat 3:00 Senal TBA 3:30 Zaike Ka Safar 4:00 Nirolac Aashiana 4:30 Ek Minute 5:00 A to Z of Computer 5.30 Cartoons 6:00 Positive Health Show 6:30 Through The Gears 7:00 Shaahi Dawat 7:15 Gaane Anjaane 7:30 The Hindi News 7 45 Haahaat 8:15 Ek Nazar 8:30 Hum Paanch 9:00 Sanaab 9:30 Tara 10:00 Hasratein 10:30 The News 11:00 Jaar 11:30 Dastaan 12:00 Daraar 12:30 TVS Sa Re Ga Ma 1:15 Jhalak 1:30 Siyaram's Cine Magic 2:00 Zee Arabic Programme 2:30 Zee Arabia Infotainment TMM

EL TV

6:30 Music Time 7:30 Ched Chad 8:30 Jazbaat 9:30 Best Of the Best 10:30 Ajnabi 11:30 Newsline 12:00 Meri Marzi 12:30 Young Buzz 1:00 Humrahi 1:30 Sargam 2:00 Music Time 3:00 Karz 3:30 Yeh Duniya 4:00 Kal Bhi Aai Bhi 4:30 Uppanyas 5:00 Frooti It's My Choice 5:30 Dil Dekhe Dekho 6:30 Manoranjan 7:00 People's Club 7:30 Nukkad 8:00 Filmi Chast 8:30 Casper Number One 9:00 Hif Thi Hit Hai 9:30

Purushikshetra 10:30 Talaash 11 00 Moov Usha Uthup Show 11 30 Chaio Cinema 12 00 Akanksha -12.30 Jhumo Nacho 1:30 Devotional 2:30 Taranne 3:30 Hunste Hunste

PTV

8 00 am Tilawat Aur Tarjuma 'Hamd'Naat 8:20 Cartour 8:30 Khabrain 8.45 Beauty Care 8:50 Fur. Kadna 9:10 Dhanar & Health Tips 10:05 Har Taan Hely Deepax 10:30 English Film Home improvement 10:55 Mills Naghma 11:00 Khabrain 11:10 Anita (Senal) 12:00 Sports Hour 12:55pm Quran-e-Hakeem 1:02 Bismillan 1:15 The Science Show 2:00 Yeh Jahan (Music video) 2:25 Animated Classiscs 3:15 Geography & Sammar School 4:20 Mitti Sona 5:00 Allah Huma Labbaik 5:25 Qabhi Mein Scochta Hoen (Drama Senal) 6:25 Alou Courses 7:00 Dhanak 7:45 English News 8:15 UN Quiz 8:45 Jab (Drama Senal) 9:00 Break for Headline News 10:00 Khabarnama 11:20 VCD Top Ten (Pakistani, Video Coundown) 12:30 Dr Quin Medicine Women (Jean Saymor) 1:35 Khas Khas Khabrain/ Close down

DD 7

10:30 Janmadin 10:35 Classical

Music 11:00 Ghare Baire 12:30 Monorama Cabin (Serial) 1:00 Janani (Serial) 1:30 Trishna 2:00 Batayan 2:30 Prachir (Senal)-3:00 Bhangan (Serial) 3:30 Bigapti 5:05 Science Prog-Bigan Prasange 5:30 Employment News 6:00 Palli Katha 6:30 Teen Kanya 7:00 Pallisamaj (Serial) 7:30 Bangla Sambad 7:55 Dinindan 8:00 Param Purush Ramkrishna 8:30 Darpan 9:00 Janani (Serial) 9:30 Monorama Cabin (Serial) 10:00 Bengali Movie Club Film Show 1:00

9 00 The Three Stooges 9:30 **SONY ET**

8 30am Gaarle Jaane Maane

Sernis The Menace 10:00 Dream Of Jeannie 10:30 Surf Wheel Of Fortune 11:00 Pehchan 12:30 Kismat 1:00 Zamin Asman

1:30 Jai Bir Hanuman 2:30 Cine Matinee-Hindi Feature Film 4:30 Jai Bir Hanuman 5:00 10 Civil Lines 5:30 The Three Stooges 6:00 Mere Message Men Geet

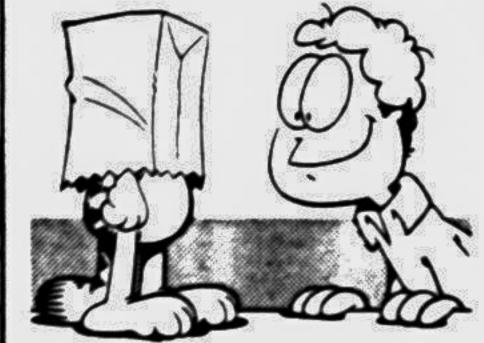
6:30 Dennis The Menace 7:00 Premier 7:30 | Dream of Jeannie 8:00 Surt-Wheel Of Fortune 8:30 Cine Prime-Hindi Feature Film 11:00 The Young And The

Restless 12:00 Tai Mahai Taki Dhina Din 12:30 Jeevan Mirtu 1:00 Sunday Ki Sunday 1:30 Surf-Wheel Of Fourtune 2:00 Premier 2:30 Closed

by Jim Davis

Garfield®







Tom and Jerry



