

## Patents filed by Department of Atomic Energy

[ Sorted on the basis of Date of Filing ]

(as on November 1, 2016)

S. No.	Unit	Title of the Invention	Application No.	Date of Filing	Patent No.	Type of Application
1	BARC	A method of chemically three dimensionally crosslinking polyvinyl alcohol	325/BOM/1980	29-Oct-1980	153797	India
2	TMC	Process for preparation of anti-leprosy vaccine	141/BOM/1981	16-May-1981	153031	India
3	BARC	A method of manufacturing mechanically stable three dimensionally cross-linked polyvinyl alcohol by an ionising radiation	171/BOM/1981	16-Jun-1981	153994	India
4	BARC	A device for removing human blood toxins	371/BOM/1983	25-Nov-1983	153999	India
5	BARC	A method of chemically three dimensionally crosslinking polyvinyl alcohol	392/BOM/1983	13-Dec-1983	153801	India
6	BARC	A method & device for in-situ casting of a tubular membrane directly on a porous tubule or capillary for use in reverse osmosis tubular modules	46/BOM/1985	19-Feb-1985	162173	India
7	BARC	A method and a device for in-situ casting of a tubular membrane directly in a porous support tube for use in reverse osmosis tubular modules	47/BOM/1985	19-Feb-1985	162174	India
8	BARC	A reverse osmosis tubular module for use in a reverse osmosis plant	48/BOM/1985	19-Feb-1985	158830	India
9	BARC	A method for the manufacture of sulphide ion sensitive or selective silver sulphide electrode for use in electrochemical cells	49/BOM/1985	19-Feb-1985	160612	India
10	BARC	An improved reverse osmosis tubular module for use in a reverse osmosis plant	228/BOM/1986	14-Aug-1986	166048	India
11	BARC	A telescopic electrode seal device for use in a completely closed electric arc furnace and such a furnace having the same	297/BOM/1987	23-Sep-1987	166974	India
12	BARC	An improved method for the detoxification of fluorine containing aqueous effluent	258/BOM/1989	19-Sep-1989	167969	India
13	BARC	A porous electrode for use in a filter-press type high pressure alkaline water electrolyser cell module and a method of manufacturing the same	31/BOM/1991	31-Jan-1991	172456	India

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14	BARC	An integral bipolar plate for use in a filter-press type high pressure alkaline water electrolyser cell module and a method of manufacturing the same	32/BOM/1991	31-Jan-1991	172485	India
15	BARC	An improved filter-press type high pressure alkaline water electrolyser cell module	33/BOM/1991	31-Jan-1991	172486	India
16	RRCAT	A birefringent crystal lens light beam polariser	252/BOM/1991	03-Sep-1991	173464	India
17	BARC	A collapsible solar dryer	9/BOM/1992	07-Jan-1992	173519	India
18	BARC	A bio catalyst for the preparation of invert sugar syrup from aqueous sucrose solution and a method of making the same	27/BOM/1994	25-Jan-1994	177144	India
19	BARC	A continuous single step bio catalytic process for the preparation of invert sugar syrup from aqueous sucrose solution and a bioreactor for carrying out the same	28/BOM/1994	25-Jan-1994	177145	India
20	BARC	A process for the preparation of an aqueous emulsion pressure sensitive adhesive (Also ref. 490/BOM/97)	390/BOM/1994	12-Aug-1994	181789	India
21	BARC	A process for the preparation of a pectinolytic enzyme complex comprising polygalacturonase pectin Esterase and pectin Llyase from a new microbial strain of Aspergillus niger van Tiegh	208/BOM/1995	02-May-1995	182245	India
22	BARC	A process for enzymatic liquefaction of unconventional fruits	209/BOM/1995	02-May-1995	182962	India
23	BARC	A high angular and spatial resolution phase gradient interferometer	424/BOM/1995	27-Sep-1995	183095	India
24	BARC	A highly cross-linked silicone membrane for liquid support and a method of making the same	220/BOM/1996	19-Apr-1996	185680	India
25	BARC	A process for the synthesis of 5,10,15,20-tetrakis[3,4-biscarboxy methyl eneoxy) phenyl] porphyrin from di(carbethoxy methyl eneoxy) benzaldehyde for detection/treatment of tumours	328/BOM/1996	25-Jun-1996	180992	India
26	BARC	A process for the synthesis of 5,10,15,20-tetrakis[3,4-biscarboxy methyl eneoxy) phenyl] porphyrin from di(carbethoxy methyl eneoxy) benzaldehyde for detection/treatment of tumours	329/BOM/1996	25-Jun-1996	180480	India
27	BARC	A process for the manufacture of an unsupported integrally skinned asymmetric semipermeable polyether amide hydrazide polymeric membrane for use in reverse osmosis	397/BOM/1996	02-Aug-1996	186375	India

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28	BARC	A solvent exchange cum immersion precipitation process for the manufacture of asymmetric semipermeable aromatic polyamide polymeric membrane for use in reverse osmosis	398/BOM/1996	02-Aug-1996	186210	India
29	IGCAR	A hydrogen sensor for measurement of diffusible hydrogen in weldment	413/BOM/1997	11-Jul-1997	186660	India
30	IGCAR	An optical probe for qualitative evaluation / measurement of defects in a ferromagnetic material component	438/BOM/1997	22-Jul-1997	186620	India
31	IGCAR	An optical probe for quantitative evaluation/measurement of defects in a ferromagnetic material component	439/BOM/1997	22-Jul-1997	186574	India
32	BARC	A process for the preparation of an aqueous emulsion pressure sensitive adhesive label (Divisional to 390/BOM/94)	490/BOM/1997	18-Aug-1997	182181	India
33	BARC	A process for the preparation of an immune-modulator from the Ayurvedic medicinal Plant, Culvel (Tinospora Sp.)	56/BOM/1998	29-Jan-1998	183805	India
34	IOP	Cds Nanocrystalline particulates and thin film thereof particularly for use as luminescent or visible light emitting elements under UV irradiation & a single step process for the preparation of the same	234/BOM/1998	22-Apr-1998	187205	India
35	TMC	A process for isolating podophyllotoxin from the genus podophyllum particularly the plant species Emodi Wall	235/BOM/1998	22-Apr-1998	187287	India
36	TMC	A process for the preparation of the anticancer drug N[4-{2,4diamino-6-pteridinyl}methyl] methylaminobenzoyl]-L-glutamic acid commonly known as methotrexate & pharmaceutically acceptable salts thereof	236/BOM/1998	22-Apr-1998	182947	India
37	IGCAR	An acrylamide based gamma ray dosimeter using ultrasonic	247/BOM/1998	28-Apr-1998	187206	India
38	IGCAR	An ultrasonic device for measuring residual monomer in a polymer solution particularly polyacrylamide	248/BOM/1998	28-Apr-1998	187485	India
39	IGCAR	An apparatus for producing laser based etching on surfaces of articles of metals, alloys and ceramics	427/BOM/1998	30-Jun-1998	189001	India
40	BARC	A method of preparing a mechanically strong hydrophilic polyvinyl alcohol hydrogel	456/BOM/1998	15-Jul-1998	187486	India
41	TIFR	A Process for the preparation of Anti-sera of protein named PV2 for detection of malaria	729/BOM/1998	20-Nov-1998	192707	India
42	IGCAR	A device for detecting defects such as scratches and cracks on an electrically conductive surface	779/BOM/1998	02-Dec-1998	190427	India

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43	HWB	A method for treating exhaust gas emission produced during combustion of coal in a coal combustion plant for reducing suspended particulate matters	31/BOM/1999	12-Jan-1999	194122	India
44	IGCAR	A modular device for generating high voltage impulses	97/BOM/1999	08-Feb-1999	191318	India
45	IGCAR	A modular device for generating high voltage impulses	98/BOM/1999	08-Feb-1999	191316	India
46	TIFR	A device for transduction of spatially patterned signals to and/or from oral surface	125/BOM/1999	24-Feb-1999	192082	India
47	TIFR	A system for projection and transmission of spatially and temporally patterned signals onto oral surface	126/BOM/1999	24-Feb-1999	191531	India
48	TIFR	A device for detection and acquisition of spatially & temporally patterned signals from oral surface	127/BOM/1999	24-Feb-1999	192719	India
49	BARC	A process for the preparation of Europium activated red emitting Yttrium phosphate vanadate phosphor with boron	222/BOM/1999	26-Mar-1999	194131	India
50	TMC	A process for the isolation of Recombinant nucleotide sequence comprising 1-2381 base pairs (bp) for early detection of oral cancer (Also Ref. 868/MUM/2001)	392/BOM/1999	24-May-1999	188744	India
51	BARC	An electronic device for recording blood flow signal variability	468/BOM/1999	28-Jun-1999	195350	India
52	BARC	A spiral wound dry polyamide element for membrane filtration and a method of making the same	553/BOM/1999	10-Aug-1999	194106	India
53	BARC	A method of making a supported dry asymmetric polyamide membrane for membrane filtration	554/BOM/1999	10-Aug-1999	194101	India
54	BARC	A high pressure vessel for membrane filtration	555/BOM/1999	10-Aug-1999	195317	India
55	IGCAR	A device for detecting leaks in tubes	556/BOM/1999	10-Aug-1999	193457	India
56	IGCAR	A split coil probe for steel wire rope inspection	557/BOM/1999	10-Aug-1999	193458	India
57	BARC	A device for dynamic compensation of slow responding transducer	632/BOM/1999	08-Sep-1999	196522	India
58	BARC	An impedance cardio vasograph	635/BOM/1999	09-Sep-1999	196540	India
59	BARC	A one step irradiation process for manufacture of hydrogel dressing free of synthetic plasticizers	731/BOM/1999	27-Oct-1999	192136	India
60	BRIT	An improved process for the preparation of magnetisable cellulose particle	805/BOM/1999	17-Nov-1999	193445	India
61	BRIT	A composition of magnetisable microcrystalline cellulose particle	806/BOM/1999	17-Nov-1999	193912	India

S. No.	Unit	Title of the Invention	Application No.	Date of Filing	Patent No.	Type of Application
62	IGCAR	An improved process for producing mixed oxide coated titanium electrodes having enhanced life in electrochemical applications and the electrodes so prepared	807/BOM/1999	17-Nov-1999	195371	India
63	BARC	System for deposition of carbon films and process for the same	94/MUM/2000	31-Jan-2000	204221	India
64	TIFR	A process for manufacture of polymeric films with electro-active patterns printed on them	290/MUM/2000	30-Mar-2000	204360	India
65	TIFR	Preloaded parabolic dish antenna and the method of making it	721/MUM/2000	01-Aug-2000	207809	India
			10/333967	24-Jan-2003	6911958	USA
			01813511-0	28-Jan-2003	CN100416920C	China
			2001278672	17-Feb-2003	2001278672	Australia
66	TIFR	An apparatus for electro-reflectance and surface photo voltage spectroscopies in soft contact mode	846/MUM/2000	14-Sep-2000	204169	India
67	HWB	An improved process for preparing stabilized biological preparation such as oral polio vaccine (OPV)	158/MUM/2001	12-Feb-2001	197836	India
68	TIFR	A process for depositing electronic ceramic oxide thin films with controlled oxygen stoichiometry on different substrate materials	210/MUM/2001	27-Feb-2001	205887	India
69	BARC	Online process instrumentation loop calibrator	282/MUM/2001	27-Mar-2001	197786	India
70	BARC	A process for preparation of banana juice and banana powder from ripe bananas (Musa Cavendish)	336/MUM/2001	11-Apr-2001	189999	India
71	BARC	A process for the preparation of insect communication modifier from Zanthaxylum Alatum seed oil	405/MUM/2001	27-Apr-2001	190566	India
72	BARC	A low cost digital pocket dosimeter	454/MUM/2001	14-May-2001	197797	India
			10/476258	27-Oct-2003	7009182	USA
73	IGCAR	An improved process for providing hard chromium nitride coating on substrates and a coated substrate so obtained	637/MUM/2001	09-Jul-2001	198325	India
74	IGCAR	A process for the preparation of MgO stabilised beta alumina	638/MUM/2001	09-Jul-2001	215156	India
75	TIFR	A compact kit for the rapid detection and estimation of protonophoric pollutants in waste waters	646/MUM/2001	10-Jul-2001	198326	India
76	BARC	A process for production of Zinc Oxide based varistor from Zinc Ore	777/MUM/2001	09-Aug-2001	204633	India
77	BARC	A process for preparation of High Purity Zinc Oxide Powder from Zinc Calcine	778/MUM/2001	09-Aug-2001	204974	India

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78	BARC	A process for producing disilicides of Molybdenum, tungsten and their Solid Solution	779/MUM/2001	09-Aug-2001	206958	India
79	BARC	Solvent extraction process for recovery of uranium from phosphoric acid (25-55% P <sub>2</sub> O <sub>5</sub> )	09/947349	07-Sep-2001	6645453B2	USA
80	TMC	A process for the preparation of a kit comprising recombinant nucleotide sequence comprising 1-2381 base pairs (bp) for early detection of oral cancer (Also Ref 392/BOM/99 above)	868/MUM/2001	11-Sep-2001	189625	India
81	TIFR	An improved room temperature chemical vapour deposition process for the deposition of poly(phenylenevinylene) in the manufacture of organic based electronic devices	1025/MUM/2001	19-Oct-2001	215159	India
82	IGCAR	Process for in-situ preparation of electrolyte for measuring hydrogen in high temperature fluids	1028/MUM/2001	22-Oct-2001	198013	India
83	IGCAR	A measuring system for online measurement of corrosion rate of metals in an aqueous medium	1029/MUM/2001	22-Oct-2001	204092	India
84	BARC	A method of PCR based detection and identification of rice blast fungus <i>magnaporthe grisea</i>	PCT/IN2002/24	11-Feb-2002	***	PCT
85	BRIT	An improved method of detection of target nucleic acid sequence by nucleic acid amplification	487/MUM/2002	31-May-2002	196040	India
		MET/FRET based method of target acid detection whereby the donor/acceptor moieties are on complementary strands	2004-510475	29-Nov-2004	4457001	Japan
86	IGCAR	An improved apparatus for measuring forces between colloidal particles or droplets	500/MUM/2002	05-Jun-2002	195921	India
87	IGCAR	A Tunable optical filter	501/MUM/2002	05-Jun-2002	196063	India
88	BARC	A process for the manufacture of novel composites of austenitic stainless steel and either commercially pure aluminium or any aluminium base alloy of 6 xxx series	643/MUM/2002	12-Jul-2002	241751	India
89	TIFR	A process for manufacture of half metallic ferromagnet with CrO <sub>2</sub> or Composites of CrO <sub>2</sub> chromium sesquioxide	783/MUM/2002	29-Aug-2002	204533	India
		Chromium dioxide (CrO <sub>2</sub> ) and composites of chromium dioxide and other oxides of Chromium such as CrO <sub>2</sub> /Cr <sub>2</sub> O <sub>3</sub> and CrO <sub>2</sub> /Cr <sub>2</sub> O <sub>5</sub> and process for manufacturing the same	10/525939	28-Feb-2005	7276226	USA
			3791168.2	28-Feb-2005	<i>U Examination</i>	Europe
90	RRCAT	An apparatus and a method for optical tweezer based system for trapping and controlled rotation of trapped microscopic objects	935/MUM/2002	29-Oct-2002	205080	India

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91	TIFR	A liquid phase epitaxy process for manufacturing separately confined strained heterostructure devices such as diode laser emitting at narrow wavelength region within 650-1600 nm	966/MUM/2002	05-Nov-2002	195956	India
92	HWB	Ammonia Absorption Refrigeration system with improved coefficient of performance	997/MUM/2002	18-Nov-2002	205574	India
93	BARC	Ultrafiltration Membrane water purification device	1090/MUM/2002	06-Dec-2002	195961	India
94	BARC	A Process for the treatment of Austenitic stainless steel	1089/MUM/2002	06-Dec-2002	200100	India
95	IGCAR	Stabilised magnetic emulsion and a process of making it	1134/MUM/2002	19-Dec-2002	205114	India
96	IREL	Two-cycle selective counter-current extraction using bis(2-ethylhexyl) phosphate and tri-n-butyl phosphate and refined kerosene as synergistic extractant system on H <sub>2</sub> O <sub>2</sub> treated H <sub>3</sub> PO <sub>4</sub> , and stripping the loaded extract with strong H <sub>3</sub> PO <sub>4</sub> containing metallic iron to lower redox potential	10/486507	11-Feb-2004	7192563	USA
		A process for recovery of high purity uranium from fertiliser grade weak phosphoric acid	03733002.4-2122	11-Feb-2004	1511869	Europe
97	TIFR	Process for manufacture of Novel compound exhibiting magneto-electric coupling and high dielectric constant at room temperature	409/MUM/2003	24-Apr-2003	203429	India
98	BARC	An pulser driven, helium-free Transversely Excited Atmospheric (TEA) pressure CO <sub>2</sub> laser	10/612848	03-Jul-2003	6950453 B2	USA
99	BARC	Process for the preparation of Ceria nano powder suitable for optical polishing	708/MUM/2003	10-Jul-2003	207569	India
100	BARC	A batch reactor for producing metal oxides	707/MUM/2003	10-Jul-2003	207053	India
101	BARC	Device for measuring and quantitative profiling of charged particle beams	3758647.6	05-Jan-2006	1649487	Europe
102	BARC	A process for treatment of waste water containing nitrate ions	764/MUM/2003	04-Aug-2003	222102	India
103	RRCAT	Apparatus and method for transport of microscopic object(s)	3818275.4	20-Feb-2006	1656680	Europe
			204/MUMNP/2006	20-Feb-2006	240966	India
			10/569047	22-Feb-2006	7502107 B2	USA
104	RRCAT	A tunable laser with a single tuning element and a wavelength selector operating in both side of a dispersive resonator	1056/MUM/2003	10-Oct-2003	198772	India

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105	BARC	A method for maintaining freshness and extension of shelf life of cut-flowers	311/MUM/2004	12-Mar-2004	210507	India
106	BARC	A visual colorimetric reagent for the rapid estimation of fluoride in ground water in the field	PCT/IN2004/100	12-Apr-2004	***	PCT
107	TIFR	A novel compound exhibiting magneto-electric coupling and high dielectric constant at room temperature	623/MUM/2004	04-Jun-2004	225691	India
108	NFC	An electro mechanical method for cost effective	753/MUM/2004	14-Jul-2004	198509	India
109	NFC	A furnace for preparing low melting metal granules	894/MUM/2004	18-Aug-2004	231518	India
110	RRCAT	An improved sub-ambient Phase Change composition	1116/MUM/2004	18-Oct-2004	234952	India
111	BRIT	A Kit for the detection of target nucleic acid sequence by nucleic acid amplification	1401/MUM/2004	23-Dec-2004	235792	India
112	BARC	Calcium Potassium Ferric amide prophylactic mixture comprising this compound and the use thereof for decorporation of Radiocesium in subjects affected by nuclear radiation	11/794781	05-Jul-2007	7935366 B2	USA
			5736305.3	7-Jul-2007	1838617	Europe
			2007-550020	10-Jul-2007	4885877	Japan
113	TIFR	Fluorescence Correlation microscopy with real-time alignment readout	05736243.6	14-Aug-2007	1848983	Europe
			11/816387	15-Aug-2007	7705987	USA
114	TIFR	Prism Mount Adapter	504/MUM/2005	21-Apr-2005	244151	India
115	RRCAT	A system for Precision angular motion mechanism for alignment and positioning of optical elements	881/MUM/2005	25-Jul-2005	209080	India
116	BARC	Process for direct somatic embryogenesis from immature inflorescence segments of sugarcane	1178/MUM/2005	23-Sep-2005	243371	India
117	TMC	A method for Ex-Vivo separation of apoptotic chromatin fragments from blood or plasma for prevention and treatment of diverse human disease	14/100950	12-Oct-2013	<i>U Examination</i>	USA
118	SINP	Separation of no-carrier-added thallium radionuclides from no-carrier-added lead & mercury radionuclides by dialysis	6711367	01-Apr-2007	1842207B1	Europe
			2592374	20-Apr-2007	2592374	Canada
			11/794793	03-Jul-2007	7799226	USA
119	BARC	Enzymatic process for debittering of protein hydrolysate using immobilised peptidases	1435/MUMNP/2008	09-Jul-2008	252516	India
			12/160517	10-Jul-2008	<i>NY Examined</i>	USA



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120	TIFR	A Novel assay for screening anti-psychotic drugs	11/405061	17-Apr-2006	7524639	USA
			4769641.4	17-May-2006	1692503	Europe
121	BARC	Emergency leak arresting device for a collared pipe	0-2,545,993	08-May-2006	2545993	Canada
		Emergency leak arresting device and method for a collared pipe	10-2006-0044404	17-May-2006	10-1202131	South Korea
122	BARC	Biometric technique for personal identification based on multiple patterns on fingers from nail side of the hand	1361/MUM/2006	30-Aug-2006	255627	India
123	IGCAR	A penetration enhancing flux formulation for Tungsten Inert Gas (TIG) welding of austenitic Stainless steel and its application	1851/MUMNP/2007	05-Nov-2007	266346	India
			GB 0721629.4	02-Nov-2007	GB 2446905	UK
			2007-14987	28-Dec-2007	95076	Ukraine
			12/063664	12-Feb-2008	8097826	USA
124	BARC	A method for non-intrusive on line detection of turbine blade condition	12/525358	31-Jul-2009	<i>NY Allotted</i>	USA
			1447/MUMNP/2009	30-Jul-2009	<i>U Examination</i>	India
125	BRNS	Zinc fertilizer formulation and process for producing the same	757/MUM/2007	19-Apr-2007	239929	India
126	BRNS	A Phosphorus fertilizer formulation and a process of making it	758/MUM/2007	19-Apr-2007	238485	India
127	BARC	Single stage purification for uranium refining	2007356815	08-Jan-2010	2007356815	Australia
			2707460	22-Jan-2010	2707460	Canada
			2010/01122	16-Feb-2010	2010/01122	South Africa
128	BARC	Stabilised natural circulation system with nano particles	2010-519567	03-Feb-2010	5555625	Japan
			12/672090	04-Feb-2010	<i>U Examination</i>	USA
129	IGCAR	Non-ionic, porous, solid resin with chemically bonded crown ether	2010-526426	24-Mar-2010	5297462	Japan
			7870504.3	26-Apr-2010	2205672	Europe
130	IGCAR	A Process for Producing Body Centered Cubic (B2) Nickel Aluminide (NiAl) Coating of Controlled Thickness on Nickel-base Alloy Surfaces	2010121170	25-May-2010	2452791	Russia
			7870514.2	25-Apr-2010		Europe
			860/MUMNP/2010	27-Apr-2010	<i>U Examination</i>	India
131	RRCAT	A Method of qualifying Niobium and/or other super conducting materials for reliable fabrication of Superconducting Radio Frequency (SCRF) Cavities	11/978163	26-Oct-2007	8673820	USA
			7119433.6	26-Oct-2007	<i>U Examination</i>	Europe
132	BARC	A hydraulic micrometer system for remote measurement of inside diameter of pipes and tubes and a method of such measurement	2690491	10-Dec-2009	2690491	Canada
			2309/MUMNP/2009	11-Dec-2009	<i>NY Examined</i>	India
			12/668107	07-Jan-2010	8327556	USA

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133	IGCAR	Process for Development of a High resistance Austenitic Stainless Steel	893/MUM/2008	21-Apr-2008	272698	India
		Development of a very high resistance to sensitisation in austenitic stainless steel through a special heat treatment resulting in grain boundary microstructural modification	8159613.2	03-Jul-2008	<i>U Examination</i>	Europe
134	IGCAR	An innovative 'cut-and-feed' operation for enhancing the performance of ion-exchange chromatographic separation.	8874274.7	10-May-2010	2274075	Europe
			12/747465	10-Jun-2010	7976708B2	USA
135	IGCAR	Wash Solution suitable for use in Continuous Reprocessing of Nuclear Fuel and a System thereof	2011-503550	21-Jul-2010	5643745	Japan
			8875988.1	16-Jun-2010	<i>NY Allotted</i>	Europe
136	IGCAR	A process for the treatment of cellulose based waste for removal of hazardous materials and recovery of valuables.	2017/MUM/2008	22-Sep-2008	256258	India
137	IGCAR	A method and apparatus for "block encryption" and "Synchronous Stream Cipher (SSC).	892/MUMNP/2011	03-May-2011	<i>NY Examined</i>	India
138	BARC	Colour indicator dosimeter for measurement of ionising radiation	12/250981	14-Oct-2008	7884339	USA
139	RRCAT	Generator of Collimated variable diameter hollow laser beam	2333/MUM/2008	03-Nov-2008	269505	India
140	TMC	A liquid based thin layer cytopreparation for liquid based cytology	2376/MUM/2008	10-Nov-2008	<i>U Examination</i>	India
141	IGCAR	Single Fibre grid with improved spatial resolution in distributed optical fibre sensor system	696/MUM/2009	24-Mar-2009	<i>U Examination</i>	India
142	BARC	A polymer composite for extracting caesium from Nuclear waste and / or other inorganic wastes / solutions	13/382905	06-Jan-2012	8828532	USA
			9764906.5	24-Jan-2012		Europe
143	BARC	Dialkyldiaza-tetraalkyl acetone diamide derivatives useful for the separation of trivalent actinide from lanthanide and process for the preparation thereof	2012-522336	27-Jan-2012	5497174	Japan
			13/388000	30-Jan-2012	8785691	USA
			ZL 200980160702.3	30-Jan-2012	201406100046200	China
			9804152.8	13-Feb-2012	2459522	Europe
144	RRCAT	Niobium based superconducting radiofrequency (SCRF) cavities comprising niobium components joined by laser welding	1177/MUMNP/2011	09-Jun-2011	<i>NY Examined</i>	India
			13/377597	12-Dec-2011	9352416	USA
			15/013474	02-Feb-2016	<i>NY Examined</i>	USA
			9812469.6	29-Dec-2011	<i>NY Allotted</i>	Europe
			2012-536015	23-Feb-2012	5632924	Japan
145	TIFR	Biological laser plasma X-ray point source	1421/MUMNP/2012	07-Jun-2012	<i>NY Examined</i>	India

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146	IGCAR	Improved path length fibre optic probe for on-line and off-line spectrophotometric assay	2801/MUM/2009	03-Dec-2009	<i>U Examination</i>	India
147	BARC	A Flexible Magnetic Membrane based Actuation System and Devices Involving the same	13/582084	31-Aug-2012	<i>U Examination</i>	USA
			2089/MUMNP/2012	13-Sep-2012	<i>NY Examined</i>	India
			10745016.5	28-Sep-2012	2542271	Europe
148	IREL	An improved process for production of high grade synthetic rutile from titaniferrous ores	782/CHE/2010	24-Mar-2010	<i>U Examination</i>	India
149	TIFR	An optical source, its method of preparation and its application thereof	1182/MUM/2010	09-Apr-2010	<i>U Examination</i>	India
150	BRNS	A single layer irradiated functional clay-polymer nanocomposite film and its method of preparation	2325/MUM/2010	18-Aug-2010	<i>U Examination</i>	India
151	NFC	A TBP nitrate solvent extraction process for producing high purity nuclear grade rare earth metal oxide	13/877184	01-Apr-2013	9174855	USA
152	BARC	Micromachined metal diaphragm based Fabry-Perot fibre optics sensor system and data processing involving the same	13/977263	28-Jun-2013	<i>U Examination</i>	USA
			1321/MUMNP/2013	08-Jul-2013	<i>NY Examined</i>	India
152	IREL	An improved process for production of high pure submicron yttria stabilized zirconia powder from zircon	3592/MUM/2010	31-Dec-2010	<i>U Examination</i>	India
154	BARC	A booster device for handling high volumetric fluid at low pressure	1206/MUM/2011	12-Apr-2011	<i>NY Examined</i>	India
155	TIFR	Novel plasmodium protein as malarial vaccine and drug target	1773/MUM/2011	17-Jun-2011	<i>NY Examined</i>	India
156	IREL	A process for producing ultrapure titanium dioxide from titaniferrous ore and slag sample	3704/MUM/2011	29-Dec-2011	<i>U Examination</i>	India
157	BRIT	A system for automatically separating <sup>99m</sup> Tc radionuclide from low-medium specific activity <sup>99</sup> Mo and a process for the same	2764086	12-Jan-2012	<i>NY Examined</i>	Canada
158	BARC	Design of algorithm and method of development of 6-axis parallel kinematic manipulator	1146/MUM/2012	09-Apr-2012	<i>NY Examined</i>	India
159	BARC	Process for production of Biofungicides, such as trichoderma Spp. Using Tamarind Seeds	1236/MUM/2012	09-Apr-2012	<i>NY Examined</i>	India
160	TIFR	Group III Nitride semiconducting material and a method of manufacturing the same	PCT/IN2012/287	20-Apr-2012	***	PCT
161	IGCAR	A novel method of Synthesis of Rhodium Metal Foam using room temperature ionic liquids	2271/MUM/2012	08-Aug-2012	<i>U Examination</i>	India

S. No.	Unit	Title of the Invention	Application No.	Date of Filing	Patent No.	Type of Application
162	IGCAR	A method of preparation of Potassium Fluoroborate (KBF <sub>4</sub> )	2270/MUM/2012	08-Aug-2012	<i>U Examination</i>	India
163	BARC	A storage stable microbial decontaminated Litchi (Litchi Chinensis) with extended shelf life retaining pericarp colour and a process thereof	2484/MUM/2012	27-Aug-2012	<i>NY Examined</i>	India
164	BRNS	Innovative, inexpensive and viable method for the isolation of novel antioxidant flavonoids from the weed, Coronopus didymus	3135/MUM/2012	29-Oct-2012	<i>NY Examined</i>	India
165	IGCAR	Apparatus and method for authenticating hard copy documents with images	2/MUM/2013	01-Jan-2013	<i>NY Examined</i>	India
166	BARC	A dual purpose atomic device for realising atomic frequency standard and magnetic field measurement	151/MUM/2013	17-Jan-2013	<i>NY Examined</i>	India
			13/924580	23-Jun-2013	9097750	USA
167	BARC	A method for large-scale synthesis of optically stimulated luminescence grade polycrystalline ceramic material	252/MUM/2013	29-Jan-2013	<i>NY Examined</i>	India
			13/925809	24-Jun-2013	<i>NY Examined</i>	USA
168	BARC	A wound dressing capable of in-situ NO <sub>x</sub> release and a process for manufacturing the same	3026/MUM/2013	19-Sep-2013	<i>NY Examined</i>	India
169	BARC	An improved ground fault protection mechanism for quick detection and isolation of a ground fault to prevent damages in parallel or upstream circuits associated with electrical power supply system	3710/MUM/2013	26-Nov-2013	<i>NY Examined</i>	India
170	IGCAR	Design of unique Creep machine for conducting creep tests in flowing liquid sodium with enhanced safety features	3776/MUM/2013	02-Dec-2013	<i>NY Examined</i>	India
171	BARC	A method for synthesis of resin beads with good control over their size	3986/MUM/2013	20-Dec-2013	<i>NY Examined</i>	India
172	BARC	Thermal Plasma process for 'inflight' Dissociation of Zircon Mineral	616/MUM/2013	01-Mar-2013	<i>NY Examined</i>	India
173	IREL	A device used for electrostatic separation of minerals based on their electrical resistivity	1005/MUM/2014	25-Mar-2014	<i>NY Examined</i>	India
			2014203144	03-Jun-2014	<i>NY Examined</i>	Australia
174	IREL	An improved electrostatic plate separator for mineral separation based on the difference in electrical resistivity and size of minerals	1006/MUM/2014	25-Mar-2014	<i>NY Examined</i>	India
			2014203014	03-Jun-2014	<i>NY Examined</i>	Australia
175	BARC	Compact Pulse Transformer with Transmission Line Embodiment	1295/MUM/2014	07-Apr-2014	<i>NY Examined</i>	India
			15/301802	04-Oct-2016	<i>NY Examined</i>	USA
			14888741.7	04-Oct-2016	<i>NY Examined</i>	Europe

S. No.	Unit	Title of the Invention	Application No.	Date of Filing	Patent No.	Type of Application
176	BARC	Charged thin film composite nanofiltration membranes and their use for water purification and effluent management	1902/MUM/2014	10-Jun-2014	<i>NY Examined</i>	India
177	BARC	A transitional joint comprising of dissimilar metal joint and a diffusion bonding shrink fit process for producing the same	1992/MUM/2014	19-Jun-2014	<i>NY Examined</i>	India
178	IGCAR	High Density Self Compacting Concrete and the method of preparing the same	2046/MUM/2014	25-Jun-2014	<i>NY Examined</i>	India
179	IREL	A method and equipment for separating non-conducting and non-magnetic minerals	2600/MUM/2014	12-Aug-2014	<i>NY Examined</i>	India
			2014253491	22-Oct-2014	<i>NY Examined</i>	Australia
			2014/08875	03-Dec-2014	<i>NY Allotted</i>	South Africa
180	IGCAR	An innovative Auto cut system for <sup>10</sup> B Isotope of Boron enrichment using continuous Ion Exchange Chromatography	14/462975	19-Aug-2014	<i>NY Examined</i>	USA
181	RRCAT	A method and device for tuning SCRF Cavity	15/022358	16-Mar-2016	<i>NY Examined</i>	USA
			2016-528072	06-May-2016	<i>NY Examined</i>	Japan
			15712694.7	05-May-2016	<i>NY Examined</i>	Europe
			201627027768	14-Aug-2016	<i>NY Examined</i>	India
182	IREL	A process for production of pure Zirconium oxide from Zircon	1972/MUM/2015	19-May-2015	<i>NY Examined</i>	India
183	BARC	Nanofiltration membranes with surface negative charge for fractional separation of mono and multivalent ionic species	2095/MUM/2015	29-May-2015	<i>NY Examined</i>	India
184	TIFR	A decentralized information flow security model for multilevel security and privacy domains	14/733285	08-Jun-2015	<i>NY Allotted</i>	USA
185	BARC	Energy Harvest System	1805/MUM/2015	06-May-2015	<i>NY Examined</i>	India
186	BRNS	A micro-trench based biochip device for screening of infectious diseases using Gold nanoparticles / nan coating	3620/MUM/2015	23-Sep-2015	<i>NY Examined</i>	India
187	BARC	Suppression of condensation induced water hammer by Al <sub>2</sub> O <sub>3</sub> nanoparticles suspended in water	PCT/IN2015/000413	09-Nov-2015	<i>Search Report Awaited</i>	PCT
188	RRCAT	Metal complex of chlorophyll derivative for magnetic resonance imaging and photodynamic therapy	4912/MUM/2015	29-Dec-2015	<i>NY Examined</i>	India
189	BARC	A System, a Device and a Method for Passive Decay Heat Transport	PCT/IB2016/050235	19-Jan-2016	<i>Search Report Received</i>	PCT
190	TIFR	Synthesis of Fibrous Nano-Silica Spheres with controlled Particle Size, Fibre Density, and Various Textural Properties	201621004089	04-Feb-2016	<i>NY Examined</i>	India
			PCT/IB2016/051870	01-Apr-2016	<i>Search Report Awaited</i>	PCT
191	BRNS	A System and Method for Micro-Drilling with Microwaves through Metallic Concentrator	201621004759	10-Feb-2016	<i>NY Examined</i>	India

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192	BARC	A Method for preparing Chlorine-dioxide releasing polymer	201621010449	28-Mar-2016	<i>NY Examined</i>	India
193	BARC	A Method of adjuvant treatment with Chlorophyllin containing therapeutic preparation including for Radioprotection of normal tissues during radiation therapy and kit thereof	15/094679	08-Apr-2016	<i>NY Examined</i>	USA
194	BARC	System comprising Sun Ray Collimating Central Mirror and Heliostat to increase efficiency	PCT/IB2016/052056	12-Apr-2016	<i>Search Report Received</i>	PCT
195	RRCAT	High Voltage DC Power Supply with full range 24 pulsed input and ripple free output for RF Amplifiers	201621014164	22-Apr-2016	<i>NY Examined</i>	India
			15/226620	02-Aug-2016	<i>NY Examined</i>	USA
			16182878.5	04-Aug-2016	<i>NY Examined</i>	Europe
196	BARC	A Method for making single integrated cut-through artistic design on metallic foil	201621014814	28-Apr-2016	<i>NY Examined</i>	India
197	IREL	A process for the Production of Thorium Phosphate	2937621	02-Aug-2016	<i>NY Examined</i>	Canada
		A process for the Production of Thorium Phosphate from Thorium Oxalate and recovery of Oxalic Acid	2016210678	03-Aug-2016	<i>NY Examined</i>	Australia
198	RRCAT	Optical Rare-Earth doped fiber long period grating based ionizing radiation dose Sensor device	15/234064	11-Aug-2016	<i>NY Examined</i>	USA

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