# Foreign Direct Investment Analysis

In [3]:
```
# Importing required Libraries
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

In [4]:
```
#Extracting CSV Data From System using Pandas Library
FDI = pd.read_csv('FDI data.csv')
FDI.style.set_caption("Amount in US$ Millions)").format(precision=2)
```

Out[4]:

| | Sector | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 200 |
|---|---|---|---|---|---|---|
| **0** | METALLURGICAL INDUSTRIES | 22.69 | 14.14 | 36.61 | 8.11 | 200. |
| **1** | MINING | 1.32 | 6.52 | 10.06 | 23.48 | 9. |
| **2** | POWER | 89.42 | 757.44 | 59.11 | 27.09 | 43. |
| **3** | NON-CONVENTIONAL ENERGY | 0.00 | 0.00 | 1.70 | 4.14 | 1. |
| **4** | COAL PRODUCTION | 0.00 | 0.00 | 0.00 | 0.04 | 0. |
| **5** | PETROLEUM & NATURAL GAS | 9.35 | 211.07 | 56.78 | 80.64 | 102. |
| **6** | BOILERS AND STEAM GENERATING PLANTS | 0.00 | 0.00 | 0.00 | 0.04 | 0. |
| **7** | PRIME MOVER (OTHER THAN ELECTRICAL GENERATORS) | 0.00 | 0.00 | 0.00 | 0.00 | 2. |
| **8** | ELECTRICAL EQUIPMENTS | 79.76 | 65.76 | 34.71 | 73.20 | 97. |
| **9** | COMPUTER SOFTWARE & HARDWARE | 228.39 | 419.39 | 314.24 | 368.32 | 527. |
| **10** | ELECTRONICS | 8.34 | 12.47 | 295.88 | 82.31 | 88. |
| **11** | TELECOMMUNICATIONS | 177.69 | 873.23 | 191.60 | 86.49 | 118. |
| **12** | INFORMATION & BROADCASTING (INCLUDING PRINT MEDIA) | 81.50 | 4.54 | 36.50 | 13.72 | 9. |
| **13** | AUTOMOBILE INDUSTRY | 195.33 | 235.76 | 419.96 | 119.09 | 121. |
| **14** | AIR TRANSPORT (INCLUDING AIR FREIGHT) | 0.00 | 0.00 | 3.80 | 0.94 | 4. |
| **15** | SEA TRANSPORT | 2.41 | 19.81 | 29.32 | 21.95 | 36. |
| **16** | PORTS | 0.00 | 15.48 | 2.03 | 116.36 | 13. |
| **17** | RAILWAY RELATED COMPONENTS | 0.00 | 0.00 | 0.56 | 2.95 | 10. |
| **18** | INDUSTRIAL MACHINERY | 5.48 | 32.04 | 19.40 | 3.18 | 8. |
| **19** | MACHINE TOOLS | 1.42 | 4.31 | 14.17 | 54.51 | 11. |
| **20** | AGRICULTURAL MACHINERY | 3.64 | 1.04 | 13.48 | 47.54 | 0. |
| **21** | EARTH-MOVING MACHINERY | 0.00 | 0.11 | 13.77 | 0.01 | 0. |
| **22** | MISCELLANEOUS MECHANICAL & ENGINEERING INDUSTRIES | 44.50 | 61.40 | 45.07 | 22.73 | 12. |
| **23** | COMMERCIAL, OFFICE & HOUSEHOLD EQUIPMENTS | 12.20 | 4.87 | 2.33 | 10.41 | 14. |
| **24** | MEDICAL AND SURGICAL APPLIANCES | 5.42 | 42.35 | 21.63 | 1.97 | 5. |
| **25** | INDUSTRIAL INSTRUMENTS | 1.01 | 5.07 | 1.31 | 0.30 | 1. |
| **26** | SCIENTIFIC INSTRUMENTS | 8.07 | 2.33 | 0.19 | 0.02 | 0. |
| **27** | MATHEMATICAL,SURVEYING AND DRAWING INSTRUMENTS | 0.00 | 0.00 | 0.00 | 0.00 | 0. |
| **28** | FERTILIZERS | 0.00 | 0.00 | 16.38 | 21.58 | 13. |

| | Sector | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 200 |
|---|---|---|---|---|---|---|
| **29** | CHEMICALS (OTHER THAN FERTILIZERS) | 111.14 | 87.23 | 128.12 | 20.24 | 69. |
| **30** | PHOTOGRAPHIC RAW FILM AND PAPER | 0.00 | 0.00 | 0.60 | 0.24 | 6. |
| **31** | DYE-STUFFS | 1.05 | 0.18 | 0.00 | 0.43 | 1. |
| **32** | DRUGS & PHARMACEUTICALS | 35.94 | 77.94 | 40.07 | 108.91 | 293. |
| **33** | TEXTILES (INCLUDING DYED,PRINTED) | 2.06 | 5.28 | 54.18 | 9.34 | 43. |
| **34** | PAPER AND PULP (INCLUDING PAPER PRODUCTS) | 60.04 | 16.70 | 7.36 | 7.15 | 2. |
| **35** | SUGAR | 0.00 | 0.00 | 3.97 | 0.00 | 2. |
| **36** | FERMENTATION INDUSTRIES | 16.02 | 11.04 | 8.07 | 1.70 | 139. |
| **37** | FOOD PROCESSING INDUSTRIES | 45.75 | 219.39 | 36.88 | 109.22 | 43. |
| **38** | VEGETABLE OILS AND VANASPATI | 0.00 | 0.00 | 0.00 | 1.69 | 9. |
| **39** | SOAPS, COSMETICS & TOILET PREPARATIONS | 0.00 | 0.00 | 0.00 | 0.00 | 0. |
| **40** | RUBBER GOODS | 0.10 | 46.39 | 16.42 | 6.37 | 40. |
| **41** | LEATHER,LEATHER GOODS AND PICKERS | 9.75 | 0.20 | 0.01 | 7.55 | 0. |
| **42** | GLUE AND GELATIN | 0.00 | 0.94 | 5.22 | 0.00 | 0. |
| **43** | GLASS | 33.87 | 8.37 | 44.98 | 5.24 | 8. |
| **44** | CERAMICS | 4.03 | 0.78 | 0.21 | 1.47 | 26. |
| **45** | CEMENT AND GYPSUM PRODUCTS | 67.72 | 139.90 | 21.08 | 9.58 | 0. |
| **46** | TIMBER PRODUCTS | 0.00 | 0.05 | 0.04 | 0.11 | 0. |
| **47** | DEFENCE INDUSTRIES | 0.00 | 0.00 | 0.00 | 0.00 | 0. |
| **48** | CONSULTANCY SERVICES | 4.25 | 66.22 | 25.70 | 46.20 | 252. |
| **49** | SERVICES SECTOR (Fin.,Banking,Insurance,Non Fin/Business,Outsourcing,R&D,Courier,Tech. Testing and Analysis, Other) | 71.38 | 187.95 | 296.34 | 271.15 | 456. |
| **50** | HOSPITAL & DIAGNOSTIC CENTRES | 0.00 | 6.93 | 29.13 | 24.08 | 26. |
| **51** | EDUCATION | 0.00 | 0.00 | 0.00 | 0.19 | 1. |
| **52** | HOTEL & TOURISM | 13.20 | 32.12 | 33.75 | 49.36 | 37. |
| **53** | TRADING | 11.49 | 43.27 | 38.13 | 31.12 | 14. |
| **54** | RETAIL TRADING | 0.00 | 0.00 | 0.00 | 0.00 | 0. |
| **55** | AGRICULTURE SERVICES | 17.52 | 14.06 | 11.01 | 0.59 | 3. |
| **56** | DIAMOND,GOLD ORNAMENTS | 18.83 | 0.36 | 1.30 | 1.96 | 8. |
| **57** | TEA AND COFFEE (PROCESSING & WAREHOUSING COFFEE & RUBBER) | 20.23 | 0.14 | 0.00 | 0.32 | 0. |

| | Sector | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 200 |
|---|---|---|---|---|---|---|
| **58** | PRINTING OF BOOKS (INCLUDING LITHO PRINTING INDUSTRY) | 0.00 | 0.00 | 6.30 | 0.00 | 0. |
| **59** | COIR | 0.00 | 0.00 | 0.00 | 0.00 | 0. |
| **60** | CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES | 0.00 | 0.00 | 0.00 | 0.00 | 0. |
| **61** | CONSTRUCTION DEVELOPMENT: Townships, housing, built-up infrastructure and construction-development projects | 24.33 | 51.75 | 36.10 | 47.04 | 152. |
| **62** | MISCELLANEOUS INDUSTRIES | 832.07 | 221.37 | 218.76 | 235.48 | 121. |

In [5]:
```
FDI.columns
```

Out[5]:
```
Index(['Sector', '2000-01', '2001-02', '2002-03', '2003-04', '2004-05',
       '2005-06', '2006-07', '2007-08', '2008-09', '2009-10', '2010-11',
       '2011-12', '2012-13', '2013-14', '2014-15', '2015-16', '2016-17'],
      dtype='object')
```

# Column Details

In [ ]:
```
There are two types of columns:
1.First Column is the 'Sector' Column in which there are 63 different Sector
2.Other columns are Year-wise columns in which we can see how much different
```

In [6]:
```
Year = ['2000-01', '2001-02', '2002-03', '2003-04', '2004-05',
       '2005-06', '2006-07', '2007-08', '2008-09', '2009-10', '2010-11',
       '2011-12', '2012-13', '2013-14', '2014-15', '2015-16', '2016-17']
Sectors = ['Sector']
```

In [7]:
```
#Extracting Detailed Information
FDI.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 63 entries, 0 to 62
Data columns (total 18 columns):
 #   Column   Non-Null Count  Dtype  
---  ------   --------------  -----  
 0   Sector   63 non-null     object 
 1   2000-01  63 non-null     float64
 2   2001-02  63 non-null     float64
 3   2002-03  63 non-null     float64
 4   2003-04  63 non-null     float64
 5   2004-05  63 non-null     float64
 6   2005-06  63 non-null     float64
 7   2006-07  63 non-null     float64
 8   2007-08  63 non-null     float64
 9   2008-09  63 non-null     float64
 10  2009-10  63 non-null     float64
 11  2010-11  63 non-null     float64
 12  2011-12  63 non-null     float64
 13  2012-13  63 non-null     float64
 14  2013-14  63 non-null     float64
 15  2014-15  63 non-null     float64
 16  2015-16  63 non-null     float64
 17  2016-17  63 non-null     float64
dtypes: float64(17), object(1)
memory usage: 9.0+ KB
```

In [8]:
```
#Checking the null Values
FDI.isnull().sum()
```

Out[8]:
```
Sector     0
2000-01    0
2001-02    0
2002-03    0
2003-04    0
2004-05    0
2005-06    0
2006-07    0
2007-08    0
2008-09    0
2009-10    0
2010-11    0
2011-12    0
2012-13    0
2013-14    0
2014-15    0
2015-16    0
2016-17    0
dtype: int64
```

In [9]:
```
#Creating Average Exchange Rate list  :-
Rates = [45.68,47.69,48.39,45.95,44.93,44.27,45.24,40.26,45.99,
         47.44,45.56,47.92,54.40,60.50,61.14,65.46,67.07]
```

# Converting American '$' to Indian '₹':

In [10]:
```
#Creating a function to Convert FDI's value from USD to INR
def multiply_columns(df, col_list, num):
    for col in col_list:
        df[col] = df[col] * Rates[col_list.index(col)]/10
    return df
```

In [12]:
```
FDI_InUSD=FDI.copy()
FDI_02 = multiply_columns(FDI, Year, Rates)
```

In [13]:
```
#FDI INFLOWS (Amount in ₹ Crores)
FDI_02.style.set_caption("FDI INFLOWS (Amount in ₹ Crores)").format(precisic
```

Out[13]:

| | Sector | 2000-01 | 2001-02 | 2002-03 | 2003-0 |
|---|---|---|---|---|---|
| **0** | METALLURGICAL INDUSTRIES | 473.46 | 321.59 | 857.26 | 171.2 |
| **1** | MINING | 27.54 | 148.29 | 235.56 | 495.7 |
| **2** | POWER | 1865.89 | 17226.73 | 1384.12 | 571.9 |
| **3** | NON-CONVENTIONAL ENERGY | 0.00 | 0.00 | 39.81 | 87.4 |
| **4** | COAL PRODUCTION | 0.00 | 0.00 | 0.00 | 0.8 |
| **5** | PETROLEUM & NATURAL GAS | 195.10 | 4800.44 | 1329.56 | 1702.6 |
| **6** | BOILERS AND STEAM GENERATING PLANTS | 0.00 | 0.00 | 0.00 | 0.8 |
| **7** | PRIME MOVER (OTHER THAN ELECTRICAL GENERATORS) | 0.00 | 0.00 | 0.00 | 0.0 |
| **8** | ELECTRICAL EQUIPMENTS | 1664.32 | 1495.60 | 812.77 | 1545.5 |
| **9** | COMPUTER SOFTWARE & HARDWARE | 4765.73 | 9538.34 | 7358.22 | 7776.7 |
| **10** | ELECTRONICS | 174.03 | 283.61 | 6928.30 | 1737.9 |
| **11** | TELECOMMUNICATIONS | 3707.79 | 19860.19 | 4486.49 | 1826.1 |
| **12** | INFORMATION & BROADCASTING (INCLUDING PRINT MEDIA) | 1700.63 | 103.25 | 854.68 | 289.6 |
| **13** | AUTOMOBILE INDUSTRY | 4075.88 | 5361.97 | 9833.75 | 2514.4 |
| **14** | AIR TRANSPORT (INCLUDING AIR FREIGHT) | 0.00 | 0.00 | 88.98 | 19.8 |
| **15** | SEA TRANSPORT | 50.29 | 450.55 | 686.55 | 463.4 |
| **16** | PORTS | 0.00 | 352.07 | 47.53 | 2456.8 |
| **17** | RAILWAY RELATED COMPONENTS | 0.00 | 0.00 | 13.11 | 62.2 |
| **18** | INDUSTRIAL MACHINERY | 114.35 | 728.70 | 454.27 | 67.1 |
| **19** | MACHINE TOOLS | 29.63 | 98.02 | 331.80 | 1150.9 |
| **20** | AGRICULTURAL MACHINERY | 75.95 | 23.65 | 315.65 | 1003.7 |
| **21** | EARTH-MOVING MACHINERY | 0.00 | 2.50 | 322.44 | 0.2 |
| **22** | MISCELLANEOUS MECHANICAL & ENGINEERING INDUSTRIES | 928.56 | 1396.44 | 1055.36 | 479.9 |
| **23** | COMMERCIAL, OFFICE & HOUSEHOLD EQUIPMENTS | 254.57 | 110.76 | 54.56 | 219.8 |
| **24** | MEDICAL AND SURGICAL APPLIANCES | 113.10 | 963.18 | 506.49 | 41.5 |
| **25** | INDUSTRIAL INSTRUMENTS | 21.08 | 115.31 | 30.67 | 6.3 |
| **26** | SCIENTIFIC INSTRUMENTS | 168.39 | 52.99 | 4.45 | 0.4 |
| **27** | MATHEMATICAL,SURVEYING AND DRAWING INSTRUMENTS | 0.00 | 0.00 | 0.00 | 0.0 |
| **28** | FERTILIZERS | 0.00 | 0.00 | 383.55 | 455.6 |

| | Sector | 2000-01 | 2001-02 | 2002-03 | 2003-0 |
|---|---|---|---|---|---|
| **29** | CHEMICALS (OTHER THAN FERTILIZERS) | 2319.12 | 1983.90 | 3000.05 | 427.3 |
| **30** | PHOTOGRAPHIC RAW FILM AND PAPER | 0.00 | 0.00 | 14.05 | 5.0 |
| **31** | DYE-STUFFS | 21.91 | 4.09 | 0.00 | 9.0 |
| **32** | DRUGS & PHARMACEUTICALS | 749.95 | 1772.62 | 938.28 | 2299.5 |
| **33** | TEXTILES (INCLUDING DYED,PRINTED) | 42.99 | 120.08 | 1268.67 | 197.2 |
| **34** | PAPER AND PULP (INCLUDING PAPER PRODUCTS) | 1252.83 | 379.81 | 172.34 | 150.9 |
| **35** | SUGAR | 0.00 | 0.00 | 92.96 | 0.0 |
| **36** | FERMENTATION INDUSTRIES | 334.28 | 251.09 | 188.97 | 35.8 |
| **37** | FOOD PROCESSING INDUSTRIES | 954.65 | 4989.67 | 863.58 | 2306.0 |
| **38** | VEGETABLE OILS AND VANASPATI | 0.00 | 0.00 | 0.00 | 35.6 |
| **39** | SOAPS, COSMETICS & TOILET PREPARATIONS | 0.00 | 0.00 | 0.00 | 0.0 |
| **40** | RUBBER GOODS | 2.09 | 1055.06 | 384.49 | 134.5 |
| **41** | LEATHER,LEATHER GOODS AND PICKERS | 203.45 | 4.55 | 0.23 | 159.4 |
| **42** | GLUE AND GELATIN | 0.00 | 21.38 | 122.23 | 0.0 |
| **43** | GLASS | 706.75 | 190.36 | 1053.25 | 110.6 |
| **44** | CERAMICS | 84.09 | 17.74 | 4.92 | 31.0 |
| **45** | CEMENT AND GYPSUM PRODUCTS | 1413.09 | 3181.80 | 493.61 | 202.2 |
| **46** | TIMBER PRODUCTS | 0.00 | 1.14 | 0.94 | 2.3 |
| **47** | DEFENCE INDUSTRIES | 0.00 | 0.00 | 0.00 | 0.0 |
| **48** | CONSULTANCY SERVICES | 88.68 | 1506.07 | 601.79 | 975.4 |
| **49** | SERVICES SECTOR (Fin.,Banking,Insurance,Non Fin/Business,Outsourcing,R&D,Courier,Tech. Testing and Analysis, Other) | 1489.46 | 4274.61 | 6939.07 | 5725.0 |
| **50** | HOSPITAL & DIAGNOSTIC CENTRES | 0.00 | 157.61 | 682.11 | 508.4 |
| **51** | EDUCATION | 0.00 | 0.00 | 0.00 | 4.0 |
| **52** | HOTEL & TOURISM | 275.44 | 730.52 | 790.29 | 1042.1 |
| **53** | TRADING | 239.76 | 984.11 | 892.85 | 657.0 |
| **54** | RETAIL TRADING | 0.00 | 0.00 | 0.00 | 0.0 |
| **55** | AGRICULTURE SERVICES | 365.58 | 319.77 | 257.81 | 12.4 |
| **56** | DIAMOND,GOLD ORNAMENTS | 392.92 | 8.19 | 30.44 | 41.3 |
| **57** | TEA AND COFFEE (PROCESSING & WAREHOUSING COFFEE & RUBBER) | 422.13 | 3.18 | 0.00 | 6.7 |

| | Sector | 2000-01 | 2001-02 | 2002-03 | 2003 0 |
|---|---|---|---|---|---|
| **58** | PRINTING OF BOOKS (INCLUDING LITHO PRINTING INDUSTRY) | 0.00 | 0.00 | 147.52 | 0.0 |
| **59** | COIR | 0.00 | 0.00 | 0.00 | 0.0 |
| **60** | CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES | 0.00 | 0.00 | 0.00 | 0.0 |
| **61** | CONSTRUCTION DEVELOPMENT: Townships, housing, built-up infrastructure and construction-development projects | 507.68 | 1176.97 | 845.31 | 993.2 |
| **62** | MISCELLANEOUS INDUSTRIES | 17362.49 | 5034.70 | 5122.47 | 4971.9 |

# Unpivoting DataFrames from wide to long format:

In [14]:
```
# Unpivoting melt Dataframe
melt = pd.melt(FDI_InUSD, id_vars = Sectors, value_vars = Year, var_name='Ye
    value_name='FDI(US$ Million)',ignore_index=True)
melt
```

Out[14]:

| | Sector | Year | FDI(US$ Million) |
|---|---|---|---|
| **0** | METALLURGICAL INDUSTRIES | 2000-01 | 103.64792 |
| **1** | MINING | 2000-01 | 6.02976 |
| **2** | POWER | 2000-01 | 408.47056 |
| **3** | NON-CONVENTIONAL ENERGY | 2000-01 | 0.00000 |
| **4** | COAL PRODUCTION | 2000-01 | 0.00000 |
| **...** | ... | ... | ... |
| **1066** | PRINTING OF BOOKS (INCLUDING LITHO PRINTING IN... | 2016-17 | 356.61119 |
| **1067** | COIR | 2016-17 | 0.00000 |
| **1068** | CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES | 2016-17 | 12479.91611 |
| **1069** | CONSTRUCTION DEVELOPMENT: Townships, housing, ... | 2016-17 | 705.17398 |
| **1070** | MISCELLANEOUS INDUSTRIES | 2016-17 | 1987.95480 |

1071 rows × 3 columns

In [15]:
```
#Unpivoting melt01 Dataframe
melt01 = pd.melt(FDI_02, id_vars = Sectors, value_vars = Year, var_name='Yea
    value_name='FDI(₹ Crores)',ignore_index=True)
melt01=round(melt01,2)
melt01
```

Out[15]:

| | Sector | Year | FDI(₹ Crores) |
|---|---|---|---|
| **0** | METALLURGICAL INDUSTRIES | 2000-01 | 473.46 |
| **1** | MINING | 2000-01 | 27.54 |
| **2** | POWER | 2000-01 | 1865.89 |
| **3** | NON-CONVENTIONAL ENERGY | 2000-01 | 0.00 |
| **4** | COAL PRODUCTION | 2000-01 | 0.00 |
| **...** | ... | ... | ... |
| **1066** | PRINTING OF BOOKS (INCLUDING LITHO PRINTING IN... | 2016-17 | 2391.79 |
| **1067** | COIR | 2016-17 | 0.00 |
| **1068** | CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES | 2016-17 | 83702.80 |
| **1069** | CONSTRUCTION DEVELOPMENT: Townships, housing, ... | 2016-17 | 4729.60 |
| **1070** | MISCELLANEOUS INDUSTRIES | 2016-17 | 13333.21 |

1071 rows × 3 columns

In [16]:
```
# Merging the FDI(US$ Million) column of melt Dataframe into melto1 Datafram
Merged=melt01.merge(melt,how='left')
Merged
```

Out[16]:

| | Sector | Year | FDI(₹ Crores) | FDI(US$ Million) |
|---|---|---|---|---|
| **0** | METALLURGICAL INDUSTRIES | 2000-01 | 473.46 | 103.64792 |
| **1** | MINING | 2000-01 | 27.54 | 6.02976 |
| **2** | POWER | 2000-01 | 1865.89 | 408.47056 |
| **3** | NON-CONVENTIONAL ENERGY | 2000-01 | 0.00 | 0.00000 |
| **4** | COAL PRODUCTION | 2000-01 | 0.00 | 0.00000 |
| **...** | ... | ... | ... | ... |
| **1066** | PRINTING OF BOOKS (INCLUDING LITHO PRINTING IN... | 2016-17 | 2391.79 | 356.61119 |
| **1067** | COIR | 2016-17 | 0.00 | 0.00000 |
| **1068** | CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES | 2016-17 | 83702.80 | 12479.91611 |
| **1069** | CONSTRUCTION DEVELOPMENT: Townships, housing, ... | 2016-17 | 4729.60 | 705.17398 |
| **1070** | MISCELLANEOUS INDUSTRIES | 2016-17 | 13333.21 | 1987.95480 |

1071 rows × 4 columns

In [17]:
```
#Sorting the Sectors and Year columns
Sorted = Merged.sort_values(['Sector','Year'], ignore_index=True)
Sorted
```

Out[17]:

| | Sector | Year | FDI(₹ Crores) | FDI(US$ Million) |
|---|---|---|---|---|
| **0** | AGRICULTURAL MACHINERY | 2000-01 | 75.95 | 16.62752 |
| **1** | AGRICULTURAL MACHINERY | 2001-02 | 23.65 | 4.95976 |
| **2** | AGRICULTURAL MACHINERY | 2002-03 | 315.65 | 65.22972 |
| **3** | AGRICULTURAL MACHINERY | 2003-04 | 1003.76 | 218.44630 |
| **4** | AGRICULTURAL MACHINERY | 2004-05 | 0.00 | 0.00000 |
| **...** | ... | ... | ... | ... |
| **1066** | VEGETABLE OILS AND VANASPATI | 2012-13 | 3207.65 | 589.64160 |
| **1067** | VEGETABLE OILS AND VANASPATI | 2013-14 | 788.78 | 130.37750 |
| **1068** | VEGETABLE OILS AND VANASPATI | 2014-15 | 5545.10 | 906.95076 |
| **1069** | VEGETABLE OILS AND VANASPATI | 2015-16 | 1466.33 | 224.00412 |
| **1070** | VEGETABLE OILS AND VANASPATI | 2016-17 | 4878.50 | 727.37415 |

1071 rows × 4 columns

In [18]:
```
print("\nStats for Sectors\n",'-'*65, sep='')
print(pd.DataFrame(Sorted.groupby('Sector').describe().loc[:,:]).transpose()
```

Stats for Sectors

---

| Sector | | AGRICULTURAL MACHINERY | AGRICULTURE SERVICES | \ |
|---|---|---|---|---|
| FDI(₹ Crores) | count | 17.000000 | 17.000000 | |
| | mean | 752.683529 | 2910.727647 | |
| | std | 952.597710 | 6518.839663 | |
| | min | 0.000000 | 12.460000 | |
| | 25% | 63.610000 | 256.450000 | |
| | 50% | 315.650000 | 911.240000 | |
| | 75% | 1003.760000 | 3331.190000 | |
| | max | 2823.530000 | 27506.720000 | |
| FDI(US$ Million) | count | 17.000000 | 17.000000 | |
| | mean | 139.572885 | 568.894086 | |
| | std | 172.900073 | 1370.805534 | |
| | min | 0.000000 | 2.711050 | |
| | 25% | 13.273840 | 53.277390 | |
| | 50% | 65.229720 | 200.008400 | |
| | 75% | 218.446300 | 512.616010 | |
| | max | 519.030400 | 5798.211680 | |

| Sector | | AIR TRANSPORT (INCLUDING AIR FREIGHT) | \ |
|---|---|---|---|
| FDI(₹ Crores) | count | 17.000000 | |
| | mean | 1931.079412 | |
| | std | 3673.383364 | |
| | min | 0.000000 | |
| | 25% | 88.980000 | |
| | 50% | 716.910000 | |
| | 75% | 1681.880000 | |
| | max | 15479.600000 | |
| FDI(US$ Million) | count | 17.000000 | |
| | mean | 334.024530 | |
| | std | 561.473182 | |
| | min | 0.000000 | |
| | 25% | 18.466230 | |
| | 50% | 149.606240 | |
| | 75% | 398.896080 | |
| | max | 2364.742500 | |

| Sector | | AUTOMOBILE INDUSTRY | \ |
|---|---|---|---|
| FDI(₹ Crores) | count | 17.000000 | |
| | mean | 30991.795294 | |
| | std | 34475.364531 | |
| | min | 2462.210000 | |
| | 25% | 5336.050000 | |
| | 50% | 21194.860000 | |
| | 75% | 45493.650000 | |
| | max | 108274.530000 | |
| FDI(US$ Million) | count | 17.000000 | |
| | mean | 5448.391762 | |
| | std | 5302.603370 | |
| | min | 547.218550 | |
| | 25% | 1124.339440 | |
| | 50% | 4422.968080 | |
| | 75% | 8362.803200 | |
| | max | 16664.562960 | |

| Sector | | BOILERS AND STEAM GENERATING PLANTS | \ |
|---|---|---|---|
| FDI(₹ Crores) | count | 17.000000 | |
| | mean | 432.292941 | |
| | std | 960.151198 | |
| | min | 0.000000 | |
| | 25% | 0.000000 | |
| | 50% | 13.080000 | |
| | 75% | 89.120000 | |
| | max | 3338.450000 | |
| FDI(US$ Million) | count | 17.000000 | |
| | mean | 69.850781 | |
| | std | 146.562391 | |
| | min | 0.000000 | |
| | 25% | 0.000000 | |
| | 50% | 2.870280 | |
| | 75% | 18.786240 | |
| | max | 509.998860 | |

| Sector | | CEMENT AND GYPSUM PRODUCTS | CERAMICS | \ |
|---|---|---|---|---|
| FDI(₹ Crores) | count | 17.000000 | 17.000000 | |
| | mean | 9941.717647 | 1165.892353 | |
| | std | 22657.523621 | 1618.845530 | |
| | min | 3.230000 | 4.920000 | |
| | 25% | 493.610000 | 111.120000 | |
| | 50% | 3181.800000 | 249.090000 | |
| | 75% | 8860.010000 | 1865.780000 | |
| | max | 95820.100000 | 5493.670000 | |
| FDI(US$ Million) | count | 17.000000 | 17.000000 | |
| | mean | 1721.744589 | 225.081983 | |
| | std | 3397.785277 | 307.073053 | |
| | min | 0.718880 | 1.016190 | |
| | 25% | 102.006120 | 23.555200 | |
| | 50% | 667.183100 | 54.672000 | |
| | 75% | 1536.760500 | 335.220660 | |
| | max | 14286.580700 | 912.579570 | |

| Sector | | CHEMICALS (OTHER THAN FERTILIZERS) | COAL PRODUCTION | \ |
|---|---|---|---|---|
| FDI(₹ Crores) | count | 17.000000 | 17.000000 | |
| | mean | 22272.047647 | 32.222941 | |
| | std | 27988.005861 | 70.262230 | |
| | min | 427.350000 | 0.000000 | |
| | 25% | 2841.780000 | 0.000000 | |
| | 50% | 8235.680000 | 0.000000 | |
| | 75% | 28797.380000 | 4.650000 | |
| | max | 92787.890000 | 228.220000 | |
| FDI(US$ Million) | count | 17.000000 | 17.000000 | |
| | mean | 4119.480964 | 7.184332 | |
| | std | 5276.194818 | 16.449624 | |
| | min | 93.002800 | 0.000000 | |
| | 25% | 619.972680 | 0.000000 | |
| | 50% | 1716.436440 | 0.000000 | |
| | 75% | 4759.898000 | 1.011780 | |
| | max | 19363.082320 | 56.686080 | |

| Sector | | COIR | ... | SEA TRANSPORT | \ |
|---|---|---|---|---|---|

```
FDI(₹ Crores)    count  17.000000  ...      17.000000
                 mean    6.907059  ...    5310.197059
                 std    12.757785  ...    8699.111589
                 min     0.000000  ...      50.290000
                 25%     0.000000  ...     745.910000
                 50%     0.820000  ...    1484.240000
                 75%     9.490000  ...    6237.730000
                 max    50.840000  ...   33065.830000
FDI(US$ Million) count  17.000000  ...      17.000000
                 mean    1.271771  ...     907.107481
                 std     2.133947  ...    1302.400331
                 min     0.000000  ...      11.008880
                 25%     0.000000  ...     141.879480
                 50%     0.180960  ...     328.080480
                 75%     2.111710  ...    1351.328400
                 max     8.315040  ...    4930.047420

Sector                  SERVICES SECTOR (Fin.,Banking,Insurance,Non Fin/Busi
ness,Outsourcing,R&D,Courier,Tech. Testing and Analysis, Other)  \
FDI(₹ Crores)    count                                              17.000000
                 mean                                           102202.884706
                 std                                            107310.265093
                 min                                              1489.460000
                 25%                                              9208.320000
                 50%                                             93950.040000
                 75%                                            130785.770000
                 max                                            390642.890000
FDI(US$ Million) count                                              17.000000
                 mean                                            18608.681411
                 std                                             16698.650123
                 min                                               326.063840
                 25%                                              2049.481950
                 50%                                             19803.970320
                 75%                                             27166.091640
                 max                                             58244.057490

Sector                  SOAPS, COSMETICS & TOILET PREPARATIONS        SUGAR
\
FDI(₹ Crores)    count                                  17.000000    17.000000
                 mean                                 2234.742353   444.416471
                 std                                  2706.062312  1091.275977
                 min                                     0.000000     0.000000
                 25%                                    17.970000     3.530000
                 50%                                   553.190000   101.960000
                 75%                                  4165.500000   201.600000
                 max                                  8281.210000  4535.680000
FDI(US$ Million) count                                  17.000000    17.000000
                 mean                                  393.616191    72.420858
                 std                                   450.163950   166.075703
                 min                                     0.000000     0.000000
                 25%                                     3.998770     0.774520
                 50%                                   116.607520    19.210830
                 75%                                   656.062000    44.561400
                 max                                  1265.079960   692.894100

Sector                  TEA AND COFFEE (PROCESSING & WAREHOUSING COFFEE & RU
```

```
BBER)  \
FDI(₹ Crores)    count                                          17.000000
                 mean                                          143.804706
                 std                                           203.419423
                 min                                             0.000000
                 25%                                             7.990000
                 50%                                            64.760000
                 75%                                           183.420000
                 max                                           784.270000
FDI(US$ Million) count                                          17.000000
                 mean                                           30.462100
                 std                                            44.958784
                 min                                             0.000000
                 25%                                             1.470400
                 50%                                            10.731200
                 75%                                            35.453000
                 max                                           170.530920

Sector                  TELECOMMUNICATIONS  TEXTILES (INCLUDING DYED,PRINTE
D)  \
FDI(₹ Crores)    count          17.000000                        17.00000
0
                 mean        43418.046471                      4621.22000
0
                 std         60444.756350                      6576.07336
8
                 min          1826.150000                        42.99000
0
                 25%          8992.610000                      1268.67000
0
                 50%         20434.280000                      3005.09000
0
                 75%         53905.570000                      3770.34000
0
                 max        250276.190000                     27842.75000
0
FDI(US$ Million) count          17.000000                        17.00000
0
                 mean         7703.885230                       806.99980
6
                 std          9103.588953                       962.61151
7
                 min           397.421550                         9.41008
0
                 25%          1653.052800                       262.17702
0
                 50%          5075.578200                       590.68540
0
                 75%          9570.774080                       786.79848
0
                 max         37315.668830                      4151.29765
0

Sector                  TIMBER PRODUCTS        TRADING  \
FDI(₹ Crores)    count        17.000000      17.000000
                 mean        310.542353   30074.998824
```

```
                    std         570.816603   48085.685887
                    min           0.000000     239.760000
                    25%           1.410000     892.850000
                    50%          32.800000   10337.880000
                    75%         335.310000   21242.290000
                    max        2278.340000  164772.410000
FDI(US$ Million)    count        17.000000      17.000000
                    mean         53.155294    4969.872622
                    std          90.559605    7331.205150
                    min           0.000000      52.486320
                    25%           0.314510     184.511070
                    50%           7.198480    2269.070240
                    75%          54.842580    3904.832000
                    max         348.050820   25171.464720

Sector                    VEGETABLE OILS AND VANASPATI
FDI(₹ Crores)       count                     17.000000
                    mean                    1286.970588
                    std                     1707.051298
                    min                        0.000000
                    25%                       35.680000
                    50%                      788.780000
                    75%                     1493.070000
                    max                     5545.100000
FDI(US$ Million)    count                     17.000000
                    mean                     227.363819
                    std                      275.366584
                    min                        0.000000
                    25%                        7.765550
                    50%                      130.377500
                    75%                      311.575840
                    max                      906.950760

[16 rows x 63 columns]
```

In [19]:
```
#Repalcing some Long values of Sector Column to Short form
Sorted = Sorted[['Sector','FDI(₹ Crores)', 'FDI(US$ Million)'
                 ,]].replace(["CONSTRUCTION DEVELOPMENT: Townships, housing,
                              ,"SERVICES SECTOR (Fin.,Banking,Insurance,Non
                              ,'TEA AND COFFEE (PROCESSING & WAREHOUSING COF
                             ,["CONSTRUCTION DEVELOPMENT","SERVICES SECTOR",
```

# Sector-wise Total FDI 2000-17:

In [20]:
```
#Grouping by Sector column to find Total FDI Inflow per Sector from FY2000-0
Sectorwise_fdi = Sorted.groupby('Sector').sum()
Sectorwise_fdi.sort_values(by='FDI(US$ Million)',ascending=False)
```

Out[20]:

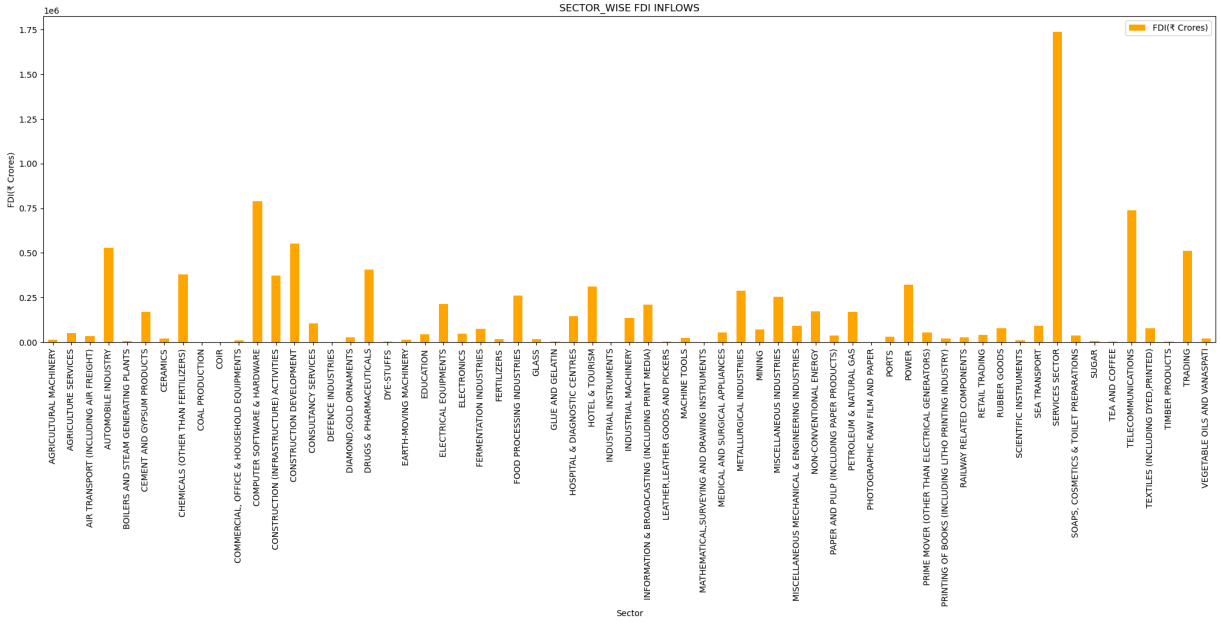
| Sector | FDI(₹ Crores) | FDI(US$ Million) |
|---|---|---|
| **SERVICES SECTOR** | 1737449.04 | 316347.58398 |
| **COMPUTER SOFTWARE & HARDWARE** | 788081.58 | 137276.83155 |
| **TELECOMMUNICATIONS** | 738106.79 | 130966.04891 |
| **CONSTRUCTION DEVELOPMENT** | 553376.36 | 115185.96101 |
| **AUTOMOBILE INDUSTRY** | 526860.52 | 92622.65996 |
| **...** | ... | ... |
| **PHOTOGRAPHIC RAW FILM AND PAPER** | 1157.25 | 278.36669 |
| **COAL PRODUCTION** | 547.79 | 122.13364 |
| **MATHEMATICAL,SURVEYING AND DRAWING INSTRUMENTS** | 219.16 | 41.61542 |
| **DEFENCE INDUSTRIES** | 134.48 | 26.09849 |
| **COIR** | 117.42 | 21.62010 |

63 rows × 2 columns

# Visualization

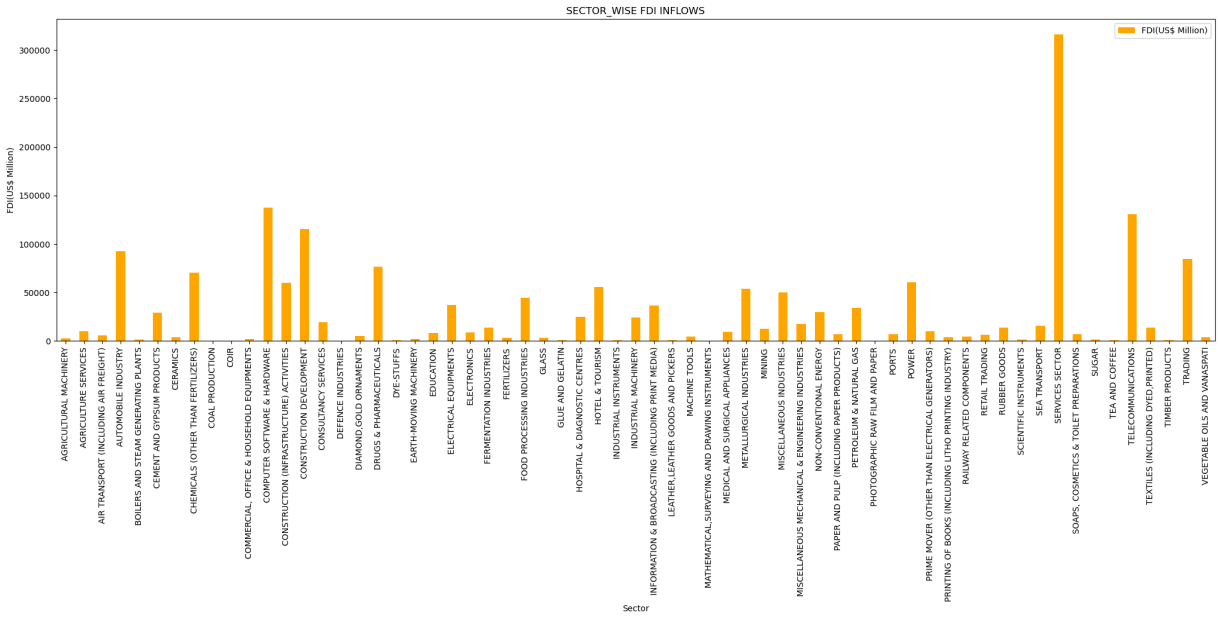
In [21]:
```
Sectorwise_fdi.plot(kind='bar',y='FDI(₹ Crores)',figsize = (25,7), color="or
```

Out[21]:
```
<Axes: title={'center': 'SECTOR_WISE FDI INFLOWS'}, xlabel='Sector', ylabel
='FDI(₹ Crores)'>
```



In [22]:
```
Sectorwise_fdi.plot(kind='bar',y='FDI(US$ Million)',figsize = (25,7),color="
```

Out[22]:
```
<Axes: title={'center': 'SECTOR_WISE FDI INFLOWS'}, xlabel='Sector', ylabel
='FDI(US$ Million)'>
```




# Best & Worst Performing Sectors:

# Top 10 Sectors

In [23]:
```
#Top 10 and bottom 10 sectors
Top_10_Sectors = Sectorwise_fdi.nlargest(10,['FDI(₹ Crores)'])
```

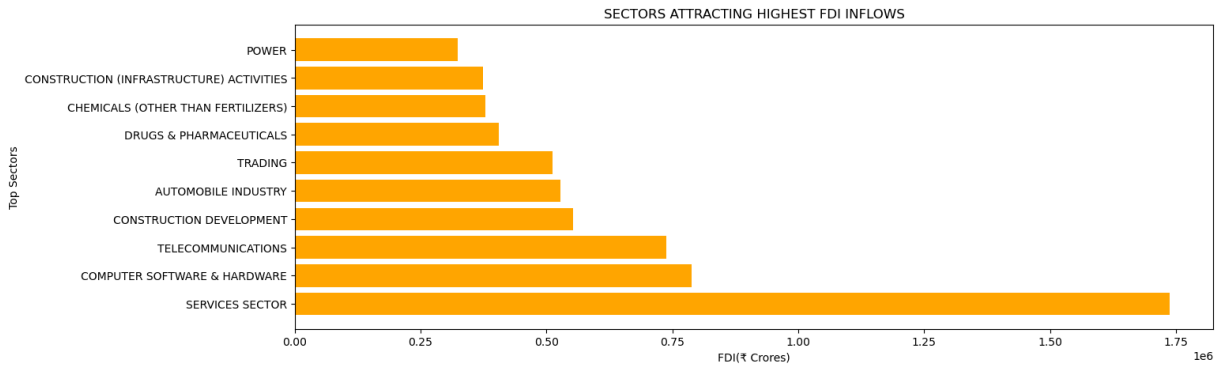
In [24]:
```
#Calculating percentage-wise FDI share among top 10 sectors and among all se
Total_fdi = round(melt01['FDI(₹ Crores)'].sum(),2)
Sum = Top_10_Sectors['FDI(₹ Crores)'].sum()
Top_10_Sectors['In %age'] = round(Top_10_Sectors['FDI(₹ Crores)']/Sum*100,2)
Top_10_Sectors['%age to Total Inflows'] = round((Top_10_Sectors['FDI(₹ Crore
Top_10_Sectors
```

Out[24]:

| Sector | FDI(₹ Crores) | FDI(US$ Million) | In %age | %age to Total Inflows |
|---|---|---|---|---|
| **SERVICES SECTOR** | 1737449.04 | 316347.58398 | 27.42 | 17.46 |
| **COMPUTER SOFTWARE & HARDWARE** | 788081.58 | 137276.83155 | 12.44 | 7.92 |
| **TELECOMMUNICATIONS** | 738106.79 | 130966.04891 | 11.65 | 7.42 |
| **CONSTRUCTION DEVELOPMENT** | 553376.36 | 115185.96101 | 8.73 | 5.56 |
| **AUTOMOBILE INDUSTRY** | 526860.52 | 92622.65996 | 8.32 | 5.29 |
| **TRADING** | 511274.98 | 84487.83457 | 8.07 | 5.14 |
| **DRUGS & PHARMACEUTICALS** | 405305.02 | 76377.63247 | 6.40 | 4.07 |
| **CHEMICALS (OTHER THAN FERTILIZERS)** | 378624.81 | 70031.17638 | 5.98 | 3.80 |
| **CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES** | 373819.27 | 60099.57546 | 5.90 | 3.76 |
| **POWER** | 323350.79 | 60397.98268 | 5.10 | 3.25 |

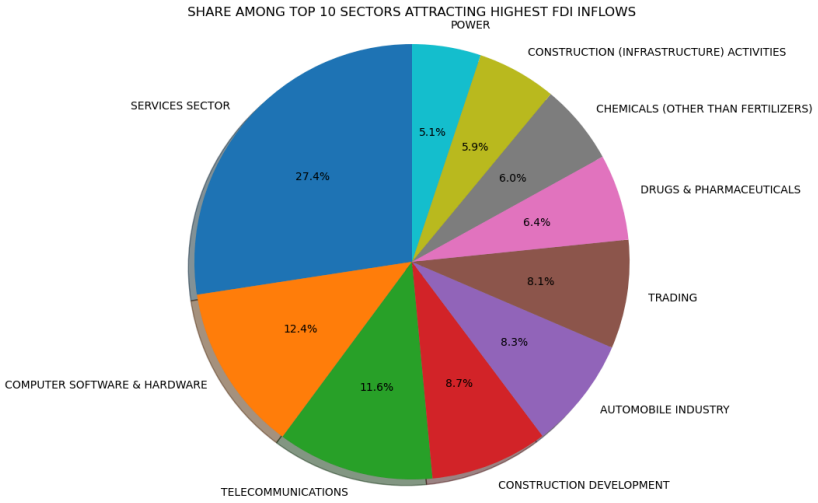
# Visualization

In [25]:
```
##Creating bar chart to visualise Total FDI inflow in top 10 sectors using M

plt.figure(figsize=(15,5))
plt.barh(Top_10_Sectors.index,Top_10_Sectors['FDI(₹ Crores)'],color="orange"
plt.title('SECTORS ATTRACTING HIGHEST FDI INFLOWS')
plt.xlabel('FDI(₹ Crores)')
plt.ylabel('Top Sectors')
plt.show()
```




In [26]:
```
#Creating pie chart to visualise percentage share of FDI among top 10 sector

e(figsize=(20,8))
```

```
plt.pie(Top_10_Sectors['FDI(₹ Crores)'],labels=Top_10_Sectors.index,autopct=
plt.axis('equal')
plt.title('SHARE AMONG TOP 10 SECTORS ATTRACTING HIGHEST FDI INFLOWS')
plt.show()
```




In [ ]:

# From the above Chart, we can understand that Service Sector Managed to Attract highest FDI which was ₹316347.59Cr greater than any other Sector and among top 10 Sectors it has 27.7% share and among all it has 17.65%.

# BOTTOM 5 SECTORS

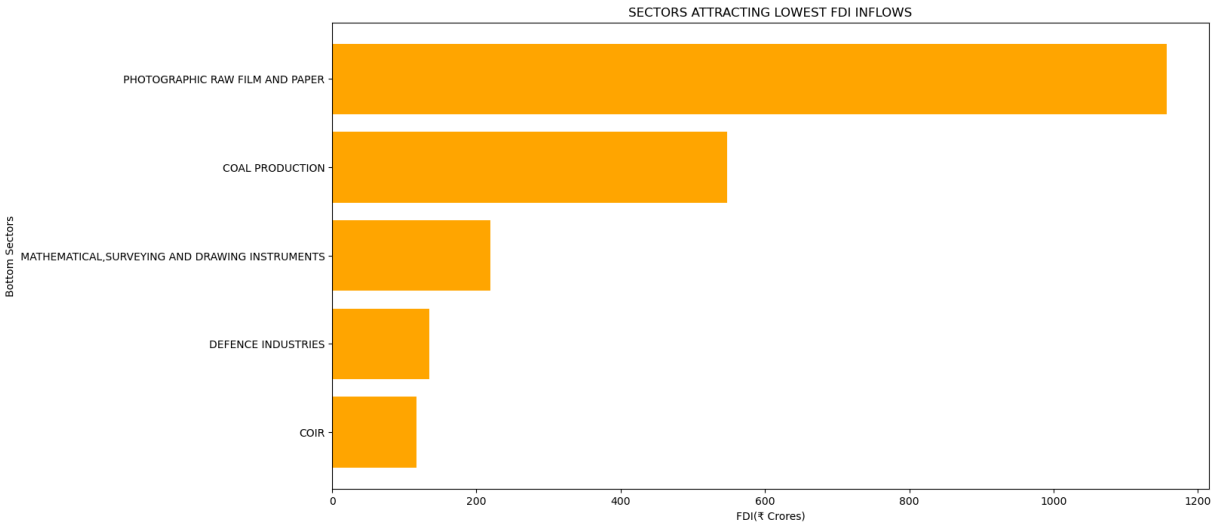
In [27]:
```
#Calculating share among Bottom sectors and as a whole
Bottom_5_Sectors = Sectorwise_fdi.nsmallest(5,['FDI(₹ Crores)'])
Sum = Bottom_5_Sectors['FDI(₹ Crores)'].sum()
Bottom_5_Sectors['In %age'] = round(Bottom_5_Sectors['FDI(₹ Crores)']/Sum*10
Bottom_5_Sectors['%age to Total Inflows'] = round((Bottom_5_Sectors['FDI(₹ C
Bottom_5_Sectors
```

Out[27]:

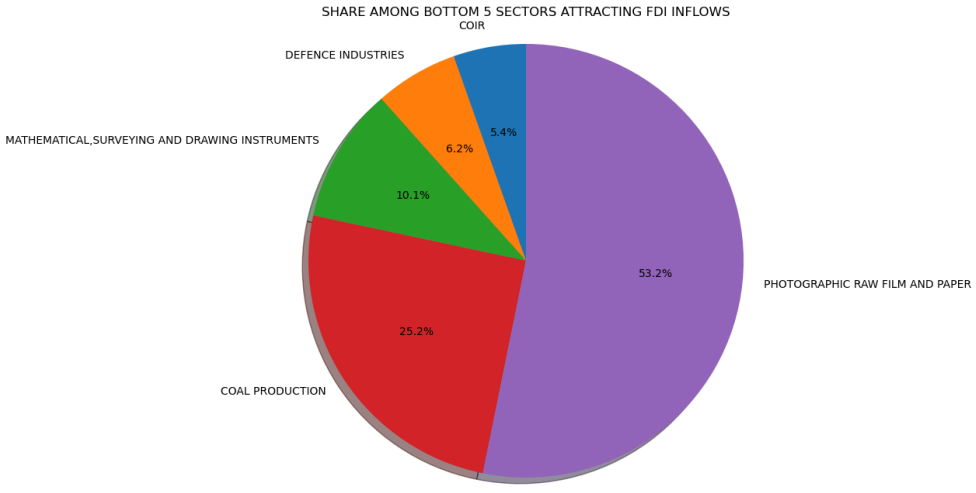
| Sector | FDI(₹ Crores) | FDI(US$ Million) | In %age | %age to Total Inflows |
|---|---|---|---|---|
| **COIR** | 117.42 | 21.62010 | 5.40 | 0.001 |
| **DEFENCE INDUSTRIES** | 134.48 | 26.09849 | 6.18 | 0.001 |
| **MATHEMATICAL,SURVEYING AND DRAWING INSTRUMENTS** | 219.16 | 41.61542 | 10.07 | 0.002 |
| **COAL PRODUCTION** | 547.79 | 122.13364 | 25.17 | 0.006 |
| **PHOTOGRAPHIC RAW FILM AND PAPER** | 1157.25 | 278.36669 | 53.18 | 0.012 |

# Visualisation:

In [28]:
```
#Creating bar chart to visualise Total FDI inflow in Bottom 5 sectors using

plt.figure(figsize=(15,8))
plt.barh(Bottom_5_Sectors.index,Bottom_5_Sectors['FDI(₹ Crores)'],color="ora
plt.title('SECTORS ATTRACTING LOWEST FDI INFLOWS')
plt.xlabel('FDI(₹ Crores)')
plt.ylabel('Bottom Sectors')
plt.show()
```




In [29]:
```
#Creating pie chart to visualise percentage share of FDI among top 10 sector

plt.figure(figsize=(20,8))
plt.pie(Bottom_5_Sectors['FDI(₹ Crores)'],labels=Bottom_5_Sectors.index,autc
plt.axis('equal')
plt.title('SHARE AMONG BOTTOM 5 SECTORS ATTRACTING FDI INFLOWS')
plt.show()
```




# Among Bottom 5 sectors, Coir has the lowest FDI of ₹21.64Cr having only 4.4% share among bottom 5 sectors and among all it has only 0.001208%.

# Year-wise Details:

Year-wise FDI Inflow

In [30]:
```
#Creating Dataframe
melt02 = melt01[['Year', 'FDI(₹ Crores)']]
melt02=round(melt02.groupby('Year').sum(),2)
```

In [31]:
```
#Creating new column of % growth over previous year
melt02['% growth over previous year'] = round(melt02.pct_change()*100,2)
```

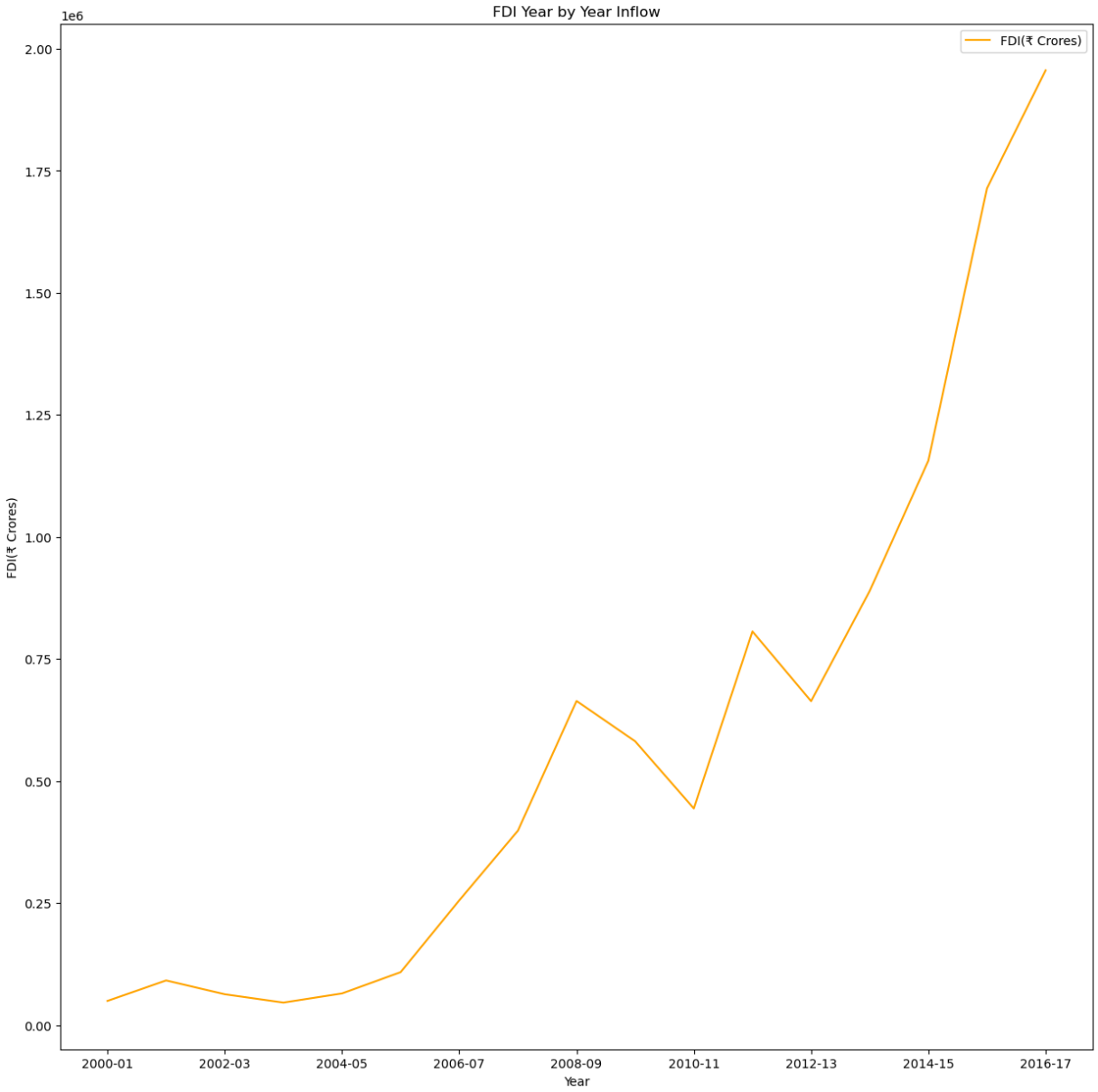
In [32]:
```
print('\n'+"*"*8+"Details on Variation of FDI INFLOW Year-wise"+'*'*8) #Yea
melt02.fillna('-')
```

********Details on Variation of FDI INFLOW Year-wise********

Out[32]:

| Year | FDI(₹ Crores) | % growth over previous year |
|---|---|---|
| **2000-01** | 49635.63 | - |
| **2001-02** | 91603.20 | 84.55 |
| **2002-03** | 63324.16 | -30.87 |
| **2003-04** | 46194.31 | -27.05 |
| **2004-05** | 64975.83 | 40.66 |
| **2005-06** | 108569.82 | 67.09 |
| **2006-07** | 255663.59 | 135.48 |
| **2007-08** | 398334.73 | 55.8 |
| **2008-09** | 664049.70 | 66.71 |
| **2009-10** | 581416.64 | -12.44 |
| **2010-11** | 443851.29 | -23.66 |
| **2011-12** | 806487.79 | 81.7 |
| **2012-13** | 663594.80 | -17.72 |
| **2013-14** | 889415.83 | 34.03 |
| **2014-15** | 1156211.81 | 30.0 |
| **2015-16** | 1714047.06 | 48.25 |
| **2016-17** | 1955819.45 | 14.11 |

In [33]:
```
#plotting to show Year by Year FDI Inflow
melt02.plot.line(y='FDI(₹ Crores)',figsize=(15,15), color="orange")
plt.ylabel('FDI(₹ Crores)')
plt.title('FDI Year by Year Inflow')
plt.show()
```




# The above graph shows the total amount of FDI inflows in India during the last 17 years i.e. 2000 to 2017. The FDI inflow from 2000-2001 i.e. ₹10865.97Cr. in 2001-02 it was ₹19208.02Cr. It shows the Good result in the FDI inflows in India. Little bit ups and downs in FDI inflows up to 2005-06, but after that great hike in the year 2007-08 and FDI was ₹98940.57Cr. In 2008-2009 there was a huge investment in FDI in ₹144390.03Cr. But then there was a downfall in Inflow of FDI in two consecutive years 2009-2010 and 2010-2011, with figures 122558.27 and 97421.29 respectively. We can analysis from the graph that in the year 2011-2012 the inflow of FDI was second highest of last 15 years i.e. 168298.80. Year 2012-13 and 2013-14 the FDI inflow fluctuated from 121984.32 to 147010.90respectively. In last Financial Year i.e.2016-2017 the amount of FDI Inflow were ₹291608.67Cr which is the highest FDI inflow in last 17 years.

# Conclusion

In [34]:
```
Sectorwise_fdi['Year'] = '2000-17'  #Creating a new column with year 2000-17
```

In [35]:
```
Sectorwise_fdi = Sectorwise_fdi[['Year','FDI(₹ Crores)', 'FDI(US$ Million)']
Sectorwise_fdi['% of Total Inflows'] = (Sectorwise_fdi['FDI(₹ Crores)']/ Sec
```

```
C:\Users\admin\AppData\Local\Temp\ipykernel_4488\3324929426.py:2: SettingWit
hCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/
stable/user_guide/indexing.html#returning-a-view-versus-a-copy
  Sectorwise_fdi['% of Total Inflows'] = (Sectorwise_fdi['FDI(₹ Crores)']/ S
ectorwise_fdi['FDI(₹ Crores)'].sum())*100
```

In [36]:
```
Sort_val1 = Sectorwise_fdi.sort_values('FDI(₹ Crores)',ascending=False)
Sort_val= Sort_val1.style.set_caption("SECTOR-WISE FDI INFLOWS").format(prec
Sort_val
```

Out[36]:

SECTOR-WISE FDI INFLOWS

| Sector | Year | FDI(₹ Crores) | FDI(US$ Million) | % of Total Inflows |
|---|---|---|---|---|
| **SERVICES SECTOR** | 2000-17 | 1737449.040 | 316347.584 | 17.456 |
| **COMPUTER SOFTWARE & HARDWARE** | 2000-17 | 788081.580 | 137276.832 | 7.918 |
| **TELECOMMUNICATIONS** | 2000-17 | 738106.790 | 130966.049 | 7.416 |
| **CONSTRUCTION DEVELOPMENT** | 2000-17 | 553376.360 | 115185.961 | 5.560 |
| **AUTOMOBILE INDUSTRY** | 2000-17 | 526860.520 | 92622.660 | 5.293 |
| **TRADING** | 2000-17 | 511274.980 | 84487.835 | 5.137 |
| **DRUGS & PHARMACEUTICALS** | 2000-17 | 405305.020 | 76377.632 | 4.072 |
| **CHEMICALS (OTHER THAN FERTILIZERS)** | 2000-17 | 378624.810 | 70031.176 | 3.804 |
| **CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES** | 2000-17 | 373819.270 | 60099.575 | 3.756 |
| **POWER** | 2000-17 | 323350.790 | 60397.983 | 3.249 |
| **HOTEL & TOURISM** | 2000-17 | 313393.360 | 55827.562 | 3.149 |
| **METALLURGICAL INDUSTRIES** | 2000-17 | 286827.690 | 53671.120 | 2.882 |
| **FOOD PROCESSING INDUSTRIES** | 2000-17 | 261656.490 | 44155.917 | 2.629 |
| **MISCELLANEOUS INDUSTRIES** | 2000-17 | 255471.200 | 50106.592 | 2.567 |
| **ELECTRICAL EQUIPMENTS** | 2000-17 | 213454.270 | 36830.036 | 2.145 |
| **INFORMATION & BROADCASTING (INCLUDING PRINT MEDIA)** | 2000-17 | 209787.110 | 36383.977 | 2.108 |
| **NON-CONVENTIONAL ENERGY** | 2000-17 | 172143.740 | 29592.580 | 1.730 |
| **PETROLEUM & NATURAL GAS** | 2000-17 | 169765.920 | 33721.169 | 1.706 |
| **CEMENT AND GYPSUM PRODUCTS** | 2000-17 | 169009.200 | 29269.658 | 1.698 |

| Sector | Year | FDI(₹ Crores) | FDI(US$ Million) | % of Total Inflows |
|---|---|---|---|---|
| HOSPITAL & DIAGNOSTIC CENTRES | 2000-17 | 147092.410 | 24974.660 | 1.478 |
| INDUSTRIAL MACHINERY | 2000-17 | 137190.320 | 24290.752 | 1.378 |
| CONSULTANCY SERVICES | 2000-17 | 106516.320 | 19357.991 | 1.070 |
| MISCELLANEOUS MECHANICAL & ENGINEERING INDUSTRIES | 2000-17 | 91620.540 | 17215.009 | 0.921 |
| SEA TRANSPORT | 2000-17 | 90273.350 | 15420.827 | 0.907 |
| TEXTILES (INCLUDING DYED,PRINTED) | 2000-17 | 78560.740 | 13718.997 | 0.789 |
| RUBBER GOODS | 2000-17 | 78392.140 | 13463.745 | 0.788 |
| FERMENTATION INDUSTRIES | 2000-17 | 75337.630 | 13512.468 | 0.757 |
| MINING | 2000-17 | 70744.930 | 12478.769 | 0.711 |
| PRIME MOVER (OTHER THAN ELECTRICAL GENERATORS) | 2000-17 | 55979.520 | 9755.444 | 0.562 |
| MEDICAL AND SURGICAL APPLIANCES | 2000-17 | 54797.680 | 9196.120 | 0.551 |
| AGRICULTURE SERVICES | 2000-17 | 49482.370 | 9671.199 | 0.497 |
| ELECTRONICS | 2000-17 | 47079.950 | 8881.754 | 0.473 |
| EDUCATION | 2000-17 | 45572.670 | 7943.624 | 0.458 |
| RETAIL TRADING | 2000-17 | 40507.510 | 6304.618 | 0.407 |
| SOAPS, COSMETICS & TOILET PREPARATIONS | 2000-17 | 37990.620 | 6691.475 | 0.382 |
| PAPER AND PULP (INCLUDING PAPER PRODUCTS) | 2000-17 | 36798.700 | 6801.268 | 0.370 |
| AIR TRANSPORT (INCLUDING AIR FREIGHT) | 2000-17 | 32828.350 | 5678.417 | 0.330 |
| PORTS | 2000-17 | 30223.600 | 7017.262 | 0.304 |
| DIAMOND,GOLD ORNAMENTS | 2000-17 | 28554.090 | 4994.479 | 0.287 |

| Sector | Year | FDI(₹ Crores) | FDI(US$ Million) | % of Total Inflows |
|---|---|---|---|---|
| RAILWAY RELATED COMPONENTS | 2000-17 | 26573.240 | 4562.775 | 0.267 |
| MACHINE TOOLS | 2000-17 | 23875.720 | 4482.263 | 0.240 |
| VEGETABLE OILS AND VANASPATI | 2000-17 | 21878.500 | 3865.185 | 0.220 |
| PRINTING OF BOOKS (INCLUDING LITHO PRINTING INDUSTRY) | 2000-17 | 20389.290 | 3552.839 | 0.205 |
| CERAMICS | 2000-17 | 19820.170 | 3826.394 | 0.199 |
| FERTILIZERS | 2000-17 | 16842.220 | 3058.237 | 0.169 |
| GLASS | 2000-17 | 16665.180 | 3007.050 | 0.167 |
| AGRICULTURAL MACHINERY | 2000-17 | 12795.620 | 2372.739 | 0.129 |
| EARTH-MOVING MACHINERY | 2000-17 | 12329.820 | 2151.841 | 0.124 |
| COMMERCIAL, OFFICE & HOUSEHOLD EQUIPMENTS | 2000-17 | 9576.610 | 1819.429 | 0.096 |
| SCIENTIFIC INSTRUMENTS | 2000-17 | 9210.630 | 1523.865 | 0.093 |
| SUGAR | 2000-17 | 7555.080 | 1231.155 | 0.076 |
| BOILERS AND STEAM GENERATING PLANTS | 2000-17 | 7348.980 | 1187.463 | 0.074 |
| TIMBER PRODUCTS | 2000-17 | 5279.220 | 903.640 | 0.053 |
| GLUE AND GELATIN | 2000-17 | 5268.600 | 818.208 | 0.053 |
| LEATHER,LEATHER GOODS AND PICKERS | 2000-17 | 4978.190 | 903.675 | 0.050 |
| DYE-STUFFS | 2000-17 | 3063.650 | 515.908 | 0.031 |
| TEA AND COFFEE | 2000-17 | 2444.680 | 517.856 | 0.025 |
| INDUSTRIAL INSTRUMENTS | 2000-17 | 1822.560 | 369.218 | 0.018 |
| PHOTOGRAPHIC RAW FILM AND | 2000- | 1157.250 | 278.367 | 0.012 |

| Sector | Year | FDI(₹ Crores) | FDI(US$ Million) | % of Total Inflows |
|---|---|---|---|---|
| **PAPER** | 17 | | | |
| **COAL PRODUCTION** | 2000-17 | 547.790 | 122.134 | 0.006 |
| **MATHEMATICAL,SURVEYING AND DRAWING INSTRUMENTS** | 2000-17 | 219.160 | 41.615 | 0.002 |
| **DEFENCE INDUSTRIES** | 2000-17 | 134.480 | 26.098 | 0.001 |
| **COIR** | 2000-17 | 117.420 | 21.620 | 0.001 |

# CONCLUSION

# The Sectoral composition of FDI over the period of April 2000 to June 2017, we can find that the largest recipient of such investment is

service sector (Financial and non-financial services). The share of this sector in FDI flows is 17 % of the inflow total foreign direct investment.

The foreign investors are interested in mainly financial services due its profit generating advantage.This sector gives scope for the foreign investor to takes backthe profits to the home country. As service sector the services are consumed in the host country and there by generating outflow of funds from the host country.

# The second recipient is Computer software and hardware which shares 7% of total FDI.

Telecommunication,, Construction Development , Automobile industry,Trade, Drugs and pharmaceuticals, Chemical ( Other than Fertilizers),Power, Construction,Hotel and tourism contribute around 7%,6%, 5%, 4.7%, 4%, 4%, 3%, 3% .

# Their is very low interset towards sectors like Coir, Defence Industries, Mathematical,surveying and drawing Instruments,

Coal Production and there are around 28 to 30 sectors where share is less than or equal to 1%.

In [ ]: